

FOR OFFICIAL USE ONLY

REPORT

OF THE

INACCESSIBLE AREA COMMITTEE



**ISTRY OF FOOD AND AGRICULTURE
(DEPARTMENT OF AGRICULTURE)**
GOVERNMENT OF INDIA

CHAPTER I

GENERAL REPORT

Appointment of the Committee

1.1 There are a number of areas in the country which are in accessible, and the Governments of India and the States concerned have either to undergo very heavy expenditure especially on transport, or encounter other practical administrative difficulties of a serious dimension in sending and maintaining regular supplies of foodgrains to such areas.

1.2 These areas are spread all over different parts of the country. Those taken up by the Committee were Ratnagiri District of Bombay, the Hill Districts of U.P. and Assam, Tripura, North East Frontier Agency, Kulu Valley of the Punjab and the Chini and Pangi areas of Himachal Pradesh. It was originally intended to include Leh area of Kashmir within the purview of the Committee but later it was excluded while the hill districts of Assam and N.E.F.A. were further included. In some cases supplies of foodgrains have to be air-lifted or dropped at exorbitant costs; at times amounting to Rs. 40 or so per maund, and the Government of India invariably supplies such foodgrains which are not available locally in sufficient quantity. With a view to examine the question of developing these areas to become self-sufficient in foodgrains within the Second Five-Year Plan period, the Government of India decided to constitute a Committee to investigate the question of deficiency in foodgrain production of these areas and suggest ways and means of maximising their indigenous production.

Terms of Reference

1.3 The terms of reference of the Committee which was named 'The Inaccessible Areas Committee', were laid down in the Government of India, Ministry of Food & Agriculture, Department of Agriculture, letter No. 3-8/58 GMF(Coord.) dated the 24th September, 1958, (Annexure 'A') and are given below:—

- (i) to study the question of deficiency in food production of these areas; and
- (ii) to suggest ways and means of increasing food production to make them self-sufficient within the next two years of the Second Plan period.

1.4 The Committee were authorised to decide their own working procedure and to visit the areas concerned as far as feasible in order to enable them to examine the problems closely.

1.5 The Committee made it a point to reach such places within or adjacent to these areas where leaders of local opinion, and locally posted Government officials could be met without any inconvenience to them, for detailed discussions. For Lahaul and Spiti areas the

Committee were lucky enough to meet the Punjab Tribes Advisory Council and also attend the Council's meeting presided over by the State Chief Minister. Occasionally the Committee even visited the remotest and most problematical parts; necessitating arduous trekking, in order to equip themselves with a background authentic enough for a fair appreciation of the grave difficulties facing the local inhabitants.

Programme of Work

1.6 The Committee held their first meeting at Delhi on the 25th September, 1958 when the draft of the Committee's questionnaire was discussed and approved. The questionnaire (Appendix 'B') was issued to the State Governments concerned on the 27th September, 1958 with a request that their replies should be forwarded to the Committee by the 26th of October, 1958. They were also requested to appoint a Liaison Officer to act as coordinating authority at the Secretariat level for facilitating the supply of information and for providing any assistance required by the Committee from time to time. However, complete replies of most of the State Governments were not received till April, 1959.

1.7 In the meantime, however, the Committee commenced their tours, beginning with the Ratnagiri District of Bombay on 18th February, 1959. They completed their visits to various States by 25th June, 1959. During these visits the Committee had to cover a distance of 6,384 miles by air, 1,621 miles by rail 120 miles by sea, and 2,290 miles by road; some of it on foot.

1.8 In the course of these visits, the Committee met the officers of the State Governments and Administrations as well as a representative cross section of the inhabitants of the areas concerned. All the Members of the Committee could neither undertake all its tours nor attend all its meetings.

Condolence

1.9 In the first week of July Shri S. Majid, Director of Agriculture, Assam, and Member of the Committee died of sudden heart failure. The Committee while placing on record his valuable assistance in their deliberations, take this opportunity of offering their heartfelt sympathies to the bereaved family.

The Problem

1.10 The inaccessible areas within the purview of the terms of reference of the Committee have a total area of 91,620 sq. miles with a population of 68,43,374. Almost all the areas in question with the exception of Assam, N.E.F.A. and Tripura mostly comprise of barren eroded hills with exceedingly low fertility of soils. According to the evidence offered by non-official agencies, most of these areas themselves claim to produce only two to four months of their annual requirements of foodgrains. According to the available official statistics, the area under cultivation in the various States, the present

output of foodgrains and estimated requirements for consumption are as follows :—

Sl. No.	Name of State/Union Territory	Area Sq. Miles	Population	Inaccessi-ble area under cultiva-tion	Present output of food-grains	Estimated annual re-quirements for con-sumption
1	2	3	4	5	6	7
				(acres)	(tons)	
1.	Himachal Pradesh (Chini & Pangi area)	3167	39,807	23,852	3,798	6,639
2.	Punjab (Kulu Valley)	6235	1,58,000	6,105	21,289	23,071
3.	Uttar Pradesh (Hill districts) ..	19360	25,30,091	21,14,796	2,22,209	4,10,067
4.	Bombay (Ratnagiri district) ..	5021	18,83,160	16,61,000	1,97,800	2,82,300
5.	Assam (Hill districts)	23065	9,67,316	4,50,232	1,82,000	1,92,000
6.	Tripura	4181	9,00,000	5,23,000	1,23,706	1,28,571
7.	N.E.F.A.	30571	3,65,000	1,52,048	6,161	76,258
	TOTAL ..	91620	68,43,374	49,33,033	7,56,963	11,18,906

1.11 The total production, therefore, falls short of requirements by 3,61,943 tons, which is at present being met through imports by Governmental and Private agencies. Keeping in view population increase, increased consumption per capita, and changes in food habits the net shortage by the end of the current plan period is estimated to be approximately 8 lakh tons.

General Observations

1.12 At the outset, the Committee have no hesitation in pointing out that till lately the inaccessible areas visited by them have all been subjected to prolonged and utter neglect both in day-to-day administration and in developmental programmes. Since the advent of National Planning, the State Governments have made some efforts to allot special attention towards the development of these areas. Within their existing plans, however, their efforts cannot be commensurate with the gravity of the problem, as an utter depletion of soil and other natural resources, have permitted unchecked deterioration for the past couple of centuries or so.

1.13 The Committee felt much concern for the staggering disparity which exists between the Country's better developed areas and those which lie remote and relatively untouched by progress.

1.14 The solution of problems of these areas, consequently, is definitely beyond the scope, and the resources of existing State Plans. Apart from Ratnagiri, all these areas touch our Northern and North-Eastern international border-lines with China and Pakistan. The problem posed by them, therefore, is a National one, and should be dealt with as such. Therefore, special development plans must be put into motion over and above the provisions of current plans of

both the Centre and the States. In their physically isolated and economically shattered condition it cannot be possible for these areas to fall even remotely into step with the progress of the rest of the country unless special attention is bestowed on them on a priority basis. In recent years the Central Government have made some efforts to accelerate developmental activities in Border areas. These, however, only touch the fringe of the problem. At present, for special development programmes only the extreme border line areas are taken up; thus creating a relatively underdeveloped belt between such 'Border Areas' and the better developed hilly regions neighbouring the plains. It is the inhabitants of these areas who are the worst off, and are still untouched by development programmes either as 'Border Areas' or as areas already reached by State level development plans, which extend towards them from the plains.

1.15 The Committee also came to the conclusion that it is impossible to give a common complexion to the problems of all these areas and cover the same in a single report. Having their individual deep-rooted problems, they do not present an all-India picture. For example in Ratnagiri the problem is posed by an almost complete denudation of soil, a mass migration of population to Metropolitan Bombay, and the area's main approach being restricted to that by sea in fair weather. In the Assam hills the problem is mainly to reverse pre-partition economic channels and to create fresh centres of facilities of marketing and processing; normal trade routes being sealed off all along the Pakistan border. In the hills of the Punjab, Uttar Pradesh and Himachal Pradesh, large scale erosion has caused utter devastation of soil, and cultivation on precipitous slopes coupled with deforestation is bringing about the cultivator's ruin. In N.E.F.A. the local Tribal is yet not 'civilised' enough to beg for food. He is close enough to Nature to retain enviable health and, supplements his foodgrain supplies with jungle tubers and plants, rice and millet beer, hunting and fishing. In actual fact his diet is richer and scientifically better balanced than that of the average citizen elsewhere in India. Almost all airlifted supplies in this area are for the security and administrative personnel posted in far flung outposts. Our programmes for this area have to fall within the National policy pattern for such areas, according to which our tribal brethren have to be administered with due respect for their customs and traditions, and our plans have to be devoid of any suggestion of haste, over administration, or large scale influx of officers from other parts of the Country.

1.16 It was, therefore, decided that, to begin with, a brief general report should be presented, covering such aspects which were found common to all areas, and detailed reports pertaining to each area submitted subsequently. Such a course would facilitate State Governments to be actively associated with the furnishing of data and finalisation of the Committee's recommendations, which would make them specific and not general. It will further ensure prompt implementation of the final report, as accepted, because re-examination at State level may not be necessary. It is not possible for the Committee to forecast the extent to which such recommendations will either be accepted or considered financially feasible. It has, therefore, been decided to offer them in as much individual detail

as possible, indicating priorities and the approximate financial implications involved, so that the over all acceptance of such recommendations may be gauged.

1.17 The Committee would also like to point out that it sensed a feeling of surprise, and disappointment at the selection of the inaccessible areas listed for the Committee's investigation. It is claimed that some States have equally, if not worse, inaccessible areas than those covered by the Committee. Even in the States visited, there are certain other areas claimed to be inaccessible but not included in the terms of reference of the Committee.

Common Aspects

1.18 After a careful consideration of the problems of these areas, and local conditions, the Committee have come to the conclusion that any developmental programme in these areas will have to be a continued process of development spread over a planned period of time. The evil forces of soil erosion have been permitted to bring about utter destruction of soil; in some areas hardly four inches of soil is left for cultivation. Despite this utter depletion of soil and denudation of forests, the cultivator is still being permitted not only to continue cultivation, but deforestation also, thus bringing about his ruin with his own hands. Under such conditions any short-term programme aimed at making such areas self-sufficient in food will neither be advisable nor practicable.

1.19 The Committee's second term of reference, therefore, cannot in any way be made into a feasible proposition; attaining self-sufficiency in food within the current plan period is not practicable; any attempt to extend or intensify cultivation in an indiscriminate manner in these areas will, instead of helping to solve the problem, aggravate it.

1.20 Broadly speaking the problem can best be tackled with a four-pronged plan of development as under:—

- (i) Accelerating existing road development programme after re-orientating them where necessary to suit local needs and conditions.
- (ii) Maximisation of local production of foodgrains in areas where intensified agriculture can be carried out without causing soil erosion.
- (iii) Development of Horticulture and other Plantation crops in areas where agriculture is causing erosion of soil, and implementation of other non-agricultural programmes to supplement the local inhabitants' purchasing power.
- (iv) Executing effective soil conservation measures in close co-ordination with Road, Agriculture and Horticultural development plans and implementation of Afforestation schemes on an extensive scale.

Communications

1.21 The most obvious solution for problems of 'Inaccessible' areas is to make them 'Accessible'. Therefore an accelerated programme of development of transport and communications has to be

implemented. This programme must suit local conditions, and it is not always necessary that the inaccessibility of an area is reduced by motorable roads only.

1.22 The lot of any inaccessible area cannot be improved without adequate facilities of accessibility by sea, rail or road and internal communications by bullock-cart, mule tracks or foot paths. Such a programme is of the foremost importance not only for food supplies to reach these areas cheaply and in time, but also to bring local produce within the reach of marketing and processing centres. In the absence of such facilities, the cultivator is deprived of the encouragement of profits due to him for implementing special programmes and incurring heavy extra investment, especially in schemes pertaining to horticulture. For example, there have been occasions when the cultivator in Assam Hills has been forced to part with his pineapples for the ridiculous price of 25 naye paise per two hundred fruits, while in some interior areas of Ratnagiri District 'Alphenso' mangoes have been sold for Rupees five per hundred. Any programme for economic uplift of these areas has, therefore, to include a major transport development programme. At present even day-to-day administration of the State Governments, what to say of development schemes, is handicapped in the very first instance, due to their inability to transport essential materials or the necessary staff. The problem thus assumes the form of a vicious circle.

1.23 The working season in almost all such areas is extremely short. Some of them not only remain snow-bound for prolonged periods, but also remain cut off during the monsoons. This further aggravates the problem facing both general and road development programmes.

1.24 Unlike other inaccessible areas, the position of Tripura is entirely different. Tripura is surrounded by Pakistan territory from three sides while the access on the fourth side is not yet readily communicable. The only easy approach is by air, which too is disturbed very often due to badflying weather conditions, especially during monsoons. Fortunately, however, Tripura's climatic and soil conditions are quite promising and can be developed to make this territory eventually self-sufficient in foodgrains despite the doubling of the local population through a large scale influx of East Pakistan refugees. To an extent, these geographical conditions also hold good for N.E.F.A. and Assam.

1.25 It is, therefore, obvious that over and above existing plans special programmes will have to be implemented for development of communications in these areas. It may also be noted that for obvious reasons cost of road construction in such areas is abnormally heavy and therefore normal formulas of financial justification of road construction will need special exemption. The Committee will furnish specific recommendations with regard to each area separately.

1.26 A common observation with regard to existing plans has been that more importance is attached to the construction of 'motorable' and 'jeepable' roads. The former bring under-developed areas

permanently nearer to neighbouring better developed areas, and the latter facilitate better administrative touring. The importance of mule tracks and foot paths, however, should not be lost sight of. The proper alignment and maintenance of such tracks, in the opinion of the Committee, needs greater attention. Not only the approach roads to the main roads are necessary, but the existence of cross-tracks joining various remote areas to such link roads is equally important. At present due regard to the old mule and foot tracks is not being paid. In several cases they have been left to fall into a State of disrepair and disuse, whereby the utility expected out of new alignments has been minimised.

1.27 The Committee noted further that new alignments of motor roads was not always in keeping with principles of soil conservation. We feel that new roads should be constructed only after proper survey by competent engineers with experience in construction of hill roads, who are fully alive to all the points mentioned above. In some cases the Committee noticed frequent changes in alignments having aggravated soil erosion. A high degree of coordination needs to be developed between the P.W.D. and Soil Conservation Departments.

1.28 Although administrative convenience is an important consideration for road location, it should not earn priority over economic considerations. Such a tendency was noticed in some cases. Since in hill areas economic channels always flow towards the plains, more roads should be built linking the interior of the hills to the plains, than linking one point in the interior to another equally remote one.

1.29 Howsoever impressed by the idea, the Committee is not in a position to firmly recommend the construction of ropeways in extremely inaccessible tracts because of the technical nature of the subject. It is, however, their firm opinion that this subject has not received the importance due to it and the technical departments concerned have neither had the time to study the feasibility of ropeways in such areas, nor made enough attempts to learn from the better experience of other countries.

Development Programmes

1.30 To maximise local production, intensive foodgrains cultivation programmes with the best scientific methods deserve to be planned only for areas which are in valleys or on plateaux where soil erosion can be kept at bay. Such areas will provide the main foodgrain potential of their zone and agricultural programmes should remain restricted to them.

1.31 In areas where cultivation is aggravating, or is likely to deepen soil erosion, the cultivator should be persuaded to switch over to horticulture and cover crops. Mangoes and citrus in the foot hills, stone fruit in the lower hills, apples in the higher hills and dry fruit in mountainous ranges can be the general pattern. During the time lag when the area under food crops is being diverted to horticulture and other cover crops, it will be necessary to compensate the farmer for the loss of foodgrains produced from that area.

This may take the form of grant for every acre diverted from foodgrain to non-foodgrains crops. The amount of the grant may be determined by the State Govt., depending upon the crop replaced. The duration of this concession will depend upon the crop that is recommended for the area. In addition, the cultivator should be given an adequate loan, preferably interest-free to act as an incentive. In areas where rainfall and weather conditions are suitable extensive plantation of cashew, pepper and other plantation crops also holds great promise. These cash crops will, if pre-planned marketing and processing programmes are also implemented, result in eventually increasing the purchasing power of the local population to procure foodgrains from neighbouring areas. Improved communications will facilitate such movements, but to begin with supplies will continue to need Govt. subsidization though not to the extent prevalent today.

1.32 Lastly special programmes of development of cottage industries like sericulture and apiculture, PWD labour cooperatives, and Forest Labour co-operatives can also provide appreciable economic relief. At the same time all these regions claim rich mineral and herbal wealth. An early opportunity should be taken to organise scientific surveys in order to verify if these resources can be developed. It could also be possible 'unskilled' earthen work of local road construction programmes to be made to synchronise with the 'off season' of the cultivator. Villagers could then be requested to contribute 'Shramdan' and payments falling due according to PWD rates be made to panchayats in lumpsums for the benefit of village development. This scheme is not as farfetched as it seems. It was tried out with great success in the erstwhile State of Pepsu.

1.33 Apart from these programmes every area seems to have one or two promising resources for special development. For example in Lahaul area increased cultivation of 'Kuth' (SAUSSUREA LAPPA) can bring about rapid economic betterment of the people, due to its value as a foreign exchange earner. In Ratnagiri, extensive mango and cashewnut development programmes are possible. In Punjab, Himachal and U.P. hills development of horticulture, dry fruits and potatoes has great potentialities. In Assam hills, NEFA and Tripura pepper, cashew and other plantation crops are a potential wealth hitherto untapped. In Himachal Pradesh and some other hill areas pasture development combined with livestock industry would be the best use for land resources suitable for this purpose. It is, therefore, essential to appreciate that the idea that all such areas in the country should rapidly become self-sufficient in foodgrains is not a correct approach, as increased cultivation of foodgrains crops will not only result in further depletion of soil but also worsen the economic backwardness of the inhabitants.

Administration

1.34 The Committee finds that the practice of posting service personnel of low calibre to such areas is still persisting. Often enough official postings to such remote areas are deemed to be a form of punishment. Upon receiving posting orders, a common practice is to utilise all accumulated leave, and in the meantime, make every effort to have the posting orders cancelled. If such attempts

are not successful, the official eventually takes up his duties as a last resort, and carries out their performance in a despirited and disinterested way.

1.35 It has been the Committee's privilege to see exceptions to this rule. As an example we found the newly formed Indian Frontier Administrative Service shouldering its responsibilities in NEFA with commendable credit. Fine types of educated youngmen are showing patriotism and devotion to duty of a high order in winning over the confidence of their Tribal brethren and making rapid progress, not only, in the day-to-day administration, but also developmental work.

1.36 There is a general tendency to apply to inaccessible areas the same staff pattern as is in vogue in better developed areas. This practice was found to be a very faulty one, as it results in certain types of staff left with nothing at all to do and others with too much to do. The staff pattern for these areas has to be reorientated to suit local conditions. Officers and service personnel intended for these areas must be specially selected from among willing people with the right aptitude for work in arduous conditions. In these remote places even basic comforts of life are limited, and the availability of essential consumer goods, if at all, is poor. Even the very necessities of life are denied for certain periods when supplies run short due to rain or snow. As an incentive, higher rates of pay and adequate allowances to cover additional expenditure and compensatory allowance for one's family should invariably be granted. An added incentive would be that service in these areas may earn extra credit for promotion.

1.37 The Committee offers the following recommendations in this respect :—

- (1) Credit for service in problem areas may be given to the officers concerned, by way of :—
 - (i) suitable entry in their confidential records;
 - (ii) consideration for out of turn promotion;
 - (iii) grant of higher scales of pay and suitable allowances in keeping with the requirements of the area, keeping in view maintenance of double establishment, absence of educational facilities for children, etc.;
 - (iv) incentive for maximum effort in the form of recognition of outstanding services by means of special increments.

(2) The Cadre of I.F.A.S. may be expanded so as to permit postings of I.F.A.S. Collectors in all such areas on deputation.

1.38 The Committee had an opportunity of studying the pattern of staff laid down for execution of development projects at various levels. The Committee is firmly of the opinion that the present tendency of imposing a uniform pattern of development or staff all over the country is not advisable. It is strongly recommended that a more realistic basis may be applied for arriving at the number of posts required to meet a particular area's requirements and its pattern of development programmes. The standard limits of population, area, and strength of staff will have to be relaxed in favour of

such remote and farflung areas. For example, in Pangi an N.E.S. Block has been opened to cover an area of 892.7 sq. miles and 224 hamlets with a paupered population of ten thousand souls. Considerable area remains snow-bound for prolonged periods and communications hardly exist. The effectiveness of the standard staff and development pattern of an N.E.S. Block in such an area can be best left to one's imagination. It would be impossible for the 10 V.L.Ws. even to reach all the hamlets much less to carry out an extension programme. In the N.E.S. blocks situated in these areas special problems of each block should be studied and a separate officer appointed to develop such schemes. For example, in a block where horticulture is the important item, a horticulture officer should be attached to the block in addition to the usual agriculture officer. Similarly in blocks where livestock development has more potentialities a livestock officer should be provided.

Agriculture, Research and Demonstration

1.39 For effective adoption of agricultural research programmes, considerable difficulty is being experienced. The result of research conducted in 'billiard table' conditions cannot, apply to areas with problematical climatic and soil conditions. Obviously, the solution lies in locating special research stations locally, where research could be carried out on suitable commodities under conditions, as adverse, and similar to those where the results of such research are to be taken advantage of.

At times particular areas were found in dire necessity for special research in a particular commodity suited only to that area. For example in Lahaul 'kuth' is still cultivated without the assistance of any scientific research. It is recommended that State Govts. and institutions like the I.C.A.R. should implement such special programmes in future.

1.40 As far as demonstration farms are concerned a similar tendency has been observed. It has been found that little attempt is being made to establish demonstration farms under problematical conditions. It is admitted that results in such farms will not be spectacular, but, however modest the success may be, it will be a definite source of encouragement to the people of the area. On the other hand spectacular success under favourable conditions is beyond the scope of the average cultivator's resources and field conditions.

1.41 Very little importance is at present attached to the appointment of good managerial staff. An ill-managed Governmental farm or demonstration plot does more harm than good. Such units should be adequately staffed with experienced and suitably trained hands preferably those having worked in similar agro-climatic conditions. The Committee frequently came across managers and demonstrators who had no previous experience whatsoever of the special problems and conditions of the areas they were posted to from far-flung corners of the State with entirely different conditions. Before such postings, an attempt should be made to refresh them in their knowledge, by introducing refresher courses thereby imparting to them up-to-date knowledge of methods best suited to local conditions.

Minor Irrigation

1.42 It was found that local inhabitants are endowed with considerable ingenuity in tapping resources of small scale irrigation channels from hill-streams. In recent years they have received appreciable help from departmental schemes in the way of grants and loans but in the Committee's opinion enough emphasis has not been laid upon the provision of technical and scientific assistance in alignment, execution, utilisation and maintenance. Several promising channels have fallen into disrepair as loans and funds initially granted for their construction do not have any provision for subsequent maintenance. Invariably, such channels have courses over terrain which is annually subjected to the ravages of the monsoon and, therefore, maintenance of small scale irrigation programme, and Government's responsibility should not cease with the grant of loans for initial construction.

1.43 In areas which are situated at not too higher an altitude than the stream bed, there is a universal demand for pumping sets to be installed to lift water to points situated at places suitable for gravitational distribution. Such requests have mostly met with rejection at the hands of the technical departments on the ground of being uneconomic. The Committee feel that in many cases the technical departments have shown too much of a conservative approach to such schemes. In our opinion it is not necessary to have regular dams of a costly nature to be constructed in such cases. Temporary boulder dams similar to those utilised for water mills could effectively store sufficient water during the non-monsoon period to enable a small pump to deliver enough discharge for irrigation purposes provided the height to which the water is lifted is not too ambitious. The Committee may not be justified in criticising technical opinion but are definitely competent to recommend that one or two pilot projects on these lines should be constructed in each area found suitable for such experimentation and the economics worked out. Even if the economics turn out to be unfavourable, Government will be in a more justified position than it is today to turn down a widespread demand in hilly areas.

1.44 The Committee also feel that even very small streamlets and springs which feed the main valley rivulets could be effectively check dammed at suitable places and on a small scale a coordinated programme of irrigation, soil conservation, and water supply could be implemented. The Committee have visited mountainous hamlets where supply of drinking water entails a trek of four or five miles.

1.45 While in a few cases small projects were seen in which hill-streams have been harnessed to generate power, no effort to utilise wind power came to the Committee's notice. Hill regions, especially valleys, are invariably blessed with continuous air currents, and therefore the possibility of utilising wind mills to generate power for small scale irrigation, drinking water, cottage industries and rural lighting, should be examined at technical level.

Other Programmes

1.46 It has already been pointed out that side by side improved transport facilities to ensure a free and cheap movement of food-grains and other commodities, the purchasing power of the local

population should also be increased by horticultural, plantation crop, cottage industries, and cooperative programmes.

1.47 Horticultural and plantation programmes have already been discussed. As regards cottage industries, good prospects appear to exist for fisheries, sericulture, apiculture, fruit preservation, joineries, and the manufacture of resin and terpentine. Detailed schemes in respect of these will be recommended in the State-wise reports.

1.48 An important item of general policy in such programmes will be to make special training facilities available locally, so that in as little time as possible the entire labour and staff employed for the development programmes of cottage industries may comprise of local inhabitants.

Cooperatives

1.49 Surprisingly enough, an overwhelming majority of labour employed in the road construction and forest programmes of these areas is imported. In the face of the poverty stricken economic conditions prevailing locally and the attractive labour rates offered, the Committee have failed to discover any one reason strong enough to explain this practice. For example during the Committee's tour, the road constructing labour in Ratnagiri had been imported from Andhra and on the Hindustan-Tibet road in Himachal, many of the road gangs were from Kargil in Kashmir. Different reasons like, inherent dislike for manual labour, were expressed in different areas. In the Committee's opinion the P.W.D. and Forest Departments in the concerned States should make efforts to unearth the root cause in this respect, and to take effective steps to ensure that as much local labour is absorbed by them as possible. The formation of labour cooperatives should be encouraged in order to maximise the profit of labour members.

1.50 Reservation of small forest contracts for local cooperative societies may be taken up as an experimental and phased programme. If successful, it can be developed to provide adequate economic relief to such sections of the local population who through prolonged employment with established contractors have gained sufficient experience in forest work, but cannot raise enough capital of their own to function independently as small contractors.

Soil Conservation.

1.51 Another very serious problem in the way of the development of these areas is chronic soil erosion. Apart from normal water erosion, the cultivator himself is assisting the evil forces of nature to bring about his own ruination. He continues to cultivate on precipitous terraces where he ploughs up extra soil every year for the rain to carry into the rivers below. A stage has now been reached where further cultivation in such areas is nothing short of fatal. For example, in Ratnagiri in many places not more than four inches separate the rock below from the cultivated surface. The quality of crops in such areas and the capacity of the soil to react to improved methods can best be imagined. In some areas in the interior hills of U.P., Himachal and Punjab, soil has been denuded to an extent where the farmer cannot look forward to anything more than the recovery of his seed. No scientific method can

come to his aid where conditions have deteriorated to such limits, apart from dissuading him from cultivation of foodgrains in such fatal conditions. An extensive bench terracing programme will be proposed in the state-wise reports only for areas where such a programme is feasible, but the over-all policy should be to systematically discourage cultivation in such areas and to persuade the farmer to switch over to horticulture and plantation crops wherever possible. It will also be possible in certain areas to develop livestock industry either for wool or for milk and milk products, for which the growing of grasses and legumes and the establishment of rich pasture are essential. Such measures increase the income of the farmer and not only prevent the soil from further deterioration but in due course build up its fertility.

1.52 Not only has the cultivator been permitted to cultivate in such denuded areas but often he is still being permitted by defective forest laws to deforest and reclaim further soil. Suitable legislation will be essential in the immediate future to ban all further deforestation in such a form. Afforestation programmes therefore deserve a vigorous expansion and state-wise recommendations to this effect will be made in subsequent reports. The seriousness of the problem can be gauged by the fact that hill-men in Tehri and Pauri Garhwal Districts of U.P., whose love for their own homes, however humble it may be, is traditional, now express a universal and widespread demand for being permanently rehabilitated in the Bhabhar areas of the plains. Despite lack of education even they have realised that in their existing depleted fields, cultivation is a hopeless venture.

1.53 The Committee, therefore, recommend that State Soil Conservation and Land Utilisation Boards, wherever constituted, should frame and implement special schemes, both long and short term, to check the menace of erosion in these areas. Such Boards should be constituted wherever they do not exist at present. The State Govts. may allot high priority to the Board's advice and without hesitation implement any suitable legislation, however drastic it may be, to adopt the Board's recommendations for soil conservation programmes. The Central Soil Conservation Board should take up special studies in these areas and help to develop suitable pilot schemes keeping in view their special requirements.

1.54 In inaccessible areas located in the extreme North-Eastern region of the country, despite the presence of lush forests, soil conservation problems are mostly posed by 'Jhum' or shifting cultivation.

1.55 It would be opportune to quote Mr. M. D. Chaturvedi, Inspector General of Forests to the Govt. of India, who on the subject of Jhum cultivation says:—

"The correct approach to the problem of shifting cultivation lies in accepting it not as a necessary evil, but recognising it as a way of life; not condemning it as an evil practice, but regarding it as an agricultural practice, evolved as a reflex to the physiographical character of the land. For too long, jhuming has been condemned out of hand as a course

to be ashamed of, a vandalism to be decried. This attitude engenders an inferiority complex and an unhealthy atmosphere for the launching of any development scheme seeking to improve the current practice."

Despite a certain amount of investigation and research into this problem little has been done in the way of scientific application of Jhum cultivation in a planned way. The Committee recommend that whatever material exists in the way of scientific research in Jhum cultivation should be converted into definite plans for implementation in areas where Jhum cultivation is practised.

Afforestation

1.56 Just as soil conservation measures in these areas will justify special schemes, staff and patterns of financial aids, over and above programmes earmarked for other areas, similarly special afforestation programmes will also have to be planned and implemented.

1.57 The Committee observed that although some success had been achieved by the State Forest Departments in afforestation schemes in Govt. forest areas, the progress of work in village or panchayat forests was exceedingly poor. In some cases panchayats after taking the possession of village forests had fallen to the lure of felling them overnight at attractive prices offered by traders. In some areas of Himachal, even mango trees are being put to the axe due to rising prices of packing-case material.

1.58 The advantages of afforestation in Govt. areas are, therefore, minimised by ill-advised fellings in village forest areas and effective legislation is over-due to check this practice.

1.59 In Statewise reports, the Committee will recommend afforestation schemes including subsidised closures. For such schemes difficulty in the availability of barbed wire for fencing is a handicap common all over the country. Alternative methods of fencing, such as boulder walls, has been resorted to successfully in some areas.

1.60 The Committee is, however, of the opinion that with successful demonstration coupled with a tactful approach, Forest Departments can persuade panchayats to adopt voluntary closures with technical and financial assistance from Government.

1.61 In a few cases the Committee observed some very successful experiments on these lines. The promise that the forests developing in such closures will eventually become the property of the panchayats, and provide sustained income, should be fully exploited by Government.

ANNEXURE 'A'

No. 3-8/58-GMF (Coord.)

Government of India

Ministry of Food & Agriculture

(Department of Agriculture)

New Delhi, the 24th September, 1958.

the 2nd Asvina, 1880.

From

Shri K. R. Damle, I.C.S.,
Secretary to the Government of India.

To

1. The Chief Secretary to the Govt. of Punjab,
Chandigarh.
2. The Chief Secretary to the Government of Bombay,
Bombay.
3. The Chief Secretary to the Government of Uttar Pradesh,
Lucknow.
4. The Chief Secretary to the Government of Assam,
Shillong.
5. The Chief Secretary,
Himachal Pradesh Administration, Simla.
6. The Chief Secretary,
Tripura Administration, Agartala.
7. The Chief Secretary,
N.E.F.A. Administration, Shillong.

Subject—Agricultural Development of Inaccessible Areas—Setting up of a Committee.

Sir,

I am directed to say that there are a number of areas which are inaccessible and the Government of India have either to undergo heavy cost of transport or encounter other difficulties in sending foodgrains to those areas. These are spread over different parts of the country. They are mainly the Chini and Pungi areas of Himachal Pradesh, Kulu Valley of Punjab, hilly districts of Uttar Pradesh, Ratnagiri District of Bombay, hilly areas of Assam and the territories of Tripura and N.E.F.A. At times foodgrains have to be air-lifted to some of these areas and at times Government of India have to supply foodgrains which are not grown in these areas nor is there any likelihood of growing them in future for climatic reasons. With a view to examine the question of developing these areas to become self-sufficient in foodgrains within the next two years, the Government of India have decided to constitute a Committee (to be named as Inaccessible Area Committee) under the

Chairmanship of Raja Surendra Singh of Nalagarh. The composition of the Committee is as follows :—

(1) Raja Surendra Singh, Agricultural Production Adviser, Ministry of Food & Agriculture.	..	
(2) Dr. B. N. Uppal, Agricultural Commissioner, I.C.A.R. (or his nominee)	..	Member
(3) Shri J. V. A. Nehemiah, Extension Commissioner, Ministry of Food & Agriculture.	..	"
(4) Shri H. K. Tandon, I.A.S., Deputy Secretary, Ministry of Home Affairs.	..	"
(5) Dr. T. S. Gill, Assistant Chief, Planning Commission.	..	"
(6) Deputy Director of Agriculture, Gurdaspur, Punjab State.	..	"
(7) Director of Agriculture or Joint Director of Agriculture, Bombay State.	..	"
(8) Dr. B. K. Mukherjee, Director of Agriculture, Uttar Pradesh.	..	"
(9) Shri L. K. Handique, Director of Agriculture, Assam State. (He will also represent N.E.F.A. Territory).	..	"
(10) Shri Thakur Sen Negi, Deputy Development Commissioner, Himachal Pradesh.	..	"
(11) Shri R. D. Naithine, Director of Agriculture, Tripura.	..	"
(12) Shri D. Ramiah, Under Secretary, Ministry of Food & Agriculture.	..	Member- Secretary.

2. The Committee will co-opt as additional members, the following Members of Parliament representing the areas which the Committee visit in connection with their work :—

Punjab.

Shri Hem Raj (Kangra).

Bombay.

Shri Premji R. Assar (Ratnagiri).

Uttar Pradesh.

Shri Mahavir Tyagi (Dehradun)

Assam and N.E.F.A.
Rani Manjula Devi (Goalpara)

Himachal Pradesh.
Shri Padam Dev (Pungi).

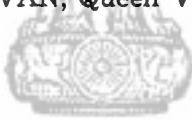
Tripura.
Shri Dasaratha Deb.

3. The terms of reference of the Committee will be:—

- (i) to study the question of deficiency in food production of these areas; and
- (ii) to suggest ways and means of increasing food production to make them self-sufficient within the next two years of the Second Plan period.

4. The Committee will decide its own working procedure and will visit the areas concerned as far as feasible and examine the problems in detail. It is expected to submit its report before the end of the current financial year.

5. It is requested that the Committee may kindly be given all the facilities necessary for discharging the duties entrusted to it. The Committee will correspond directly with the State Governments and Central Ministries/Departments for obtaining information/documents and for arranging its tour programmes. All the correspondence meant for the Committee should be sent to the Member-Secretary of the Committee (Shri D. Ramiah, Room No. 334, Third Floor, KRISHI BHAVAN, Queen Victoria Road, New Delhi).



सत्यमेव जयते

Yours faithfully,
Sd/- K. C. Chetty
for Secretary.

IMMEDIATE

No. 3-8/58-GMF (Co-ord.)
 Government of India
 Ministry of Food & Agriculture
 (Department of Agriculture)

New Delhi, the 7th October, 1958.

the 15th Asvina, 1880.

From

Shri K. C. Chetty, B.Sc. (Edin.),
 Deputy Secretary to the Government of India.

To

1. The Chief Secretary to the Government of Punjab,
Chandigarh.
2. The Chief Secretary to the Government of Bombay,
Bombay.
3. The Chief Secretary to the Government of Uttar Pradesh,
Lucknow.
4. The Chief Secretary to the Government of Assam,
Shillong.
5. The Chief Secretary,
Himachal Pradesh Administration, Simla.
6. The Chief Secretary,
Tripura Administration, Agartala.
7. The Chief Secretary,
N.E.F.A. Administration, Shillong.

Subject—Agricultural Development of Inaccessible Areas—Setting up of a Committee.

Sir,

In continuation of this Ministry's letter of even number dated the 24th September 1958 on the subject mentioned above I am directed to say that in the list of Members of the Inaccessible Area Committee, the following name may be added :—

Shri S. C. Ray,
 Director of Agriculture and Community Development,
 North-East Frontier Agency.

He is appointed a Member of the Committee to represent N.E.F.A.

2. I am also to say that the correct name of the Member of the Committee representing Tripura is "Shri H. D. Naithani" (Director of Agriculture, Tripura), and not "Shri R. D. Naithine."

Yours faithfully,
 (K. C. Chetty)
 Deputy Secretary

EXPRESS LETTER

No. 3-8/58-GMF (Co-ord.)
 Government of India
 Ministry of Food & Agriculture
 (Department of Agriculture)

New Delhi, the 28th November, 1958.

the 7th Agrahayana, 1880.

From

Shri V. Balasubramanian,
 Under Secretary to the Government of India.

To

1. The Chief Secretary to the Government of Punjab,
Chandigarh.
2. The Chief Secretary to the Government of Bombay,
Bombay.
3. The Chief Secretary to the Government of Uttar Pradesh,
Lucknow.
4. The Chief Secretary to the Government of Assam,
Shillong.
5. The Chief Secretary,
Himachal Pradesh Administration, Simla.
6. The Chief Secretary,
Tripura Administration, Agartala.
7. The Chief Secretary,
N.E.F.A. Administration, Shillong.

Subject—Agricultural Development of Inaccessible Areas—Inaccessible Area Committee.

Reference this Ministry's letter of even number dated the 24th September, 1958. The following amendments may please be noted with regard to the Members of the Committee.

Punjab

The Director of Agriculture, Punjab State, in place of Deputy Director of Agriculture, Gurdaspur, Punjab State.

Assam

The Director of Agriculture, Assam, State, (by designation) instead of "Shri L. K. Handique, Director of Agriculture, Assam State."

Central Government

Shri K. R. Prabhu, Deputy Secretary, Ministry of Home Affairs, in place of Shri H. K. Tandon.

2. It was stated in this Ministry's aforesaid letter of 24th September, 1958, that the Committee is expected to submit its report before the end of the current financial year. However, in view of the winter conditions prevailing at present in most of the hilly areas and the inability of the Committee to visit those areas, the Committee now expects to submit its report by the end of June 1959.

(V. Balasubramanian)
Under Secretary to the Government of India

EXPRESS LETTER

No. 3-8/58-GMF (Co-ord.)
Government of India
Ministry of Food & Agriculture
(Department of Agriculture)

New Delhi, the 10th December, 1958.

the 19th Agrahayana, 1880.

From

Shri V. Balasubramanian,
Under Secretary to the Government of India.

To

1. The Chief Secretary to the Government of Punjab,
Chandigarh.
2. The Chief Secretary to the Government of Bombay,
Bombay.
3. The Chief Secretary to the Government of Uttar Pradesh,
Lucknow.
4. The Chief Secretary to the Government of Assam,
Shillong.
5. The Chief Secretary,
Himachal Pradesh Administration, *Simla.*
6. The Chief Secretary,
Tripura Administration, *Agartala.*
7. The Chief Secretary,
N.E.F.A. Administration, *Shillong.*

Subject—Agricultural Development of Inaccessible Areas—Inaccessible Area Committee.

Reference this Ministry's letter of even number dated the 24th September, 1958. The following amendment may please be noted with regard to the Member of the Committee representing Himachal Pradesh.

The Director of Agriculture, Himachal Pradesh (Dr. L. S. Negi) in place of Shri Thakur Sen Negi, Deputy Development Commissioner, Himachal Pradesh.

(V. Balasubramanian)
Under Secretary.

No. 3-8/58-GMF (Co-ord.)
Government of India
Ministry of Food & Agriculture
(Department of Agriculture)

New Delhi, the 30th April, 1959.

the 10th Vaisakha, 1881.

From

Shri V. Balasubramanian,
Under Secretary to the Government of India.

To

1. The Chief Secretary to the Government of Punjab, *Chandigarh*.
2. The Chief Secretary to the Government of Bombay, *Bombay*.
3. The Chief Secretary to the Government of Uttar Pradesh, *Lucknow*.
4. The Chief Secretary to the Government of Assam, *Shillong*.
5. The Chief Secretary, *Himachal Pradesh Administration, Simla*.
6. The Chief Secretary, *Tripura Administration, Agartala*.
7. The Adviser to the Governor of Assam, *Shillong*.

Subject—Agricultural Development of Inaccessible Areas—Inaccessible Area Committee.

Reference this Ministry letter No. 3-8/58 GMF (Co-ord.) dated, the 24th September, 1958 and also para 1 of letter of even number dated 7th October, 1958. The following amendment may please be noted with regard to the Member of the Committee representing N.E.F.A.

Shri R. S. Nag, I.F.A.S., Development Commissioner, N.E.F.A., is nominated as Member of the Inaccessible Area Committee in place of Shri S. C. Ray.

(V. Balasubramanian)
Under Secretary

No. 3-8/58-GMF (Co-ord.)
 Government of India
 Ministry of Food & Agriculture
 (Department of Agriculture)

New Delhi, the 15th July, 1959.

the 20th Asadha, 1881.

From

Shri V. Balasubramanian,
 Under Secretary to the Government of India.

To

1. The Chief Secretary to the Government of Punjab,
Chandigarh.
2. The Chief Secretary to the Government of Bombay,
Bombay.
3. The Chief Secretary to the Government of Uttar Pradesh,
Lucknow.
4. The Chief Secretary to the Government of Assam,
Shillong.
5. The Chief Secretary,
Himachal Pradesh Administration, Simla.
6. The Chief Secretary,
Tripura Administration, Agartala.
7. The Adviser to the Governor of Assam,
Shillong.

Subject—Agricultural Development of Inaccessible Areas—Inaccessible Area Committee.

Sir,

I am directed to invite your attention to para 2 of this Ministry's express letter of even number dated 28th November 1958, wherein it was stated that the Committee was expected to submit its report by the end of June 1959, and to say that due to unavoidable circumstances the Committee could not so far complete its visit to all the concerned States/Union Territories. It is, therefore, expected that the Committee will be in a position to submit its report only by the end of October, 1959.

Yours faithfully,

(V. Balasubramanian)
 Under Secretary

ANNEXURE 'B'

INACCESSIBLE AREAS COMMITTEE
MINISTRY OF FOOD & AGRICULTURE
(DEPARTMENT OF AGRICULTURE)
GOVERNMENT OF INDIA
NEW DELHI-2.



27th September, 1958.

NOTE

Replies may kindly be sent by 26th October, 1958 latest to Shri D. Ramiah, Member-Secretary of the Committee, Ministry of Food & Agriculture, Queen Victoria Road, New Delhi-2.

Telegrams :

Telephone :

CARE AGRINDIA
Office — 46404
Residence — 49306

QUESTIONNAIRE

NOTE : Replies to the Questionnaire are required only in respect of the areas of each State as indicated below :—

Punjab : (Kulu Valley, Kulu)

Assam : (including NEFA) Hilly areas of Assam and NEFA

Uttar Pradesh : (Hilly districts of U.P.)

Bombay : (Ratnagiri District)

Himachal Pradesh : (Chini and Pungi areas, Chamba, Rampur)

Agartala : Tripura (entire area)

I. Food position in general

- (a) Requirement of various types of foodgrains (Rice, Wheat, Jowar, millets etc.) according to the population.
- (b) How much of the requirement is met internally and how much from outside and from which sources.
- (c) How are the requirements transferred to the inaccessible areas in your State and indicate special problems connected therewith and how they are being managed at present.
- (d) The expenditure involved in obtaining foodgrains from outside, especially indicating expenditure on transport.
- (e) What will be requirement of goodgrains at the end of 2nd Plan period 1960-61 taking into account the rate of increase in population, urbanisation and intra consumption per capita.
- (f) The cost involved.

II. Production position in general

- (i) Geographical area, population and net area sown.
- (ii) Classification of area into permanent pastures and other grassing lands, land under miscellaneous crops, cultivable lands, current fallows etc.
- (iii) Production of principal food crops.
- (iv) Area and crops irrigated.
- (v) Area under principal food crops such as rice, wheat, jowar, millet etc.
- (vi) Average yield per acre of principal crops.
- (vii) Actual expenditure, target and achievement in respect of Grow More Food Schemes in the first Five-Year Plan and in the first year of the Second Five-Year Plan. Target fixed for 1957-58 and the proposed target for the current year as well as the remaining period of the Second plan.

III. Food Production Schemes

- (a) Briefly describe all the food production schemes included in the Second Five Year Plan period giving—
 - (1) their physical and financial targets and achievements from year to year.
 - (2) the target and actual achievements from year to year in terms of food production.
 - (3) in case there is a gap between the targets and achievements in any year, kindly give reasons.
- (b) What are the main measures for increasing food production in your State?
- (c) How have the food production schemes been working and what are the scopes for intensification?

Different kinds of food production schemes.

IV. Minor Irrigation.

- (a) Have surveys been conducted annually or at other intervals regarding the number of minor irrigation works of different types such as wells, tanks, channels etc. that are out of use and the extent of areas lost thereby every year?
- (b) What are the results of such surveys?
- (c) What steps are being taken towards proper maintenance of minor irrigation works to ensure that no such works become out of order resulting in the loss of acreage covered?
- (d) Give in brief the particulars of all the existing minor irrigation works, their total cost, acreage covered and additional food production gained.
- (e) What steps have been taken to ensure full use of the irrigation potential already created?
- (f) Possibilities for taking up new minor irrigation works which promise immediate results, their estimated cost, acreage expected to be benefited and additional food production anticipated.
- (g) What are the yardsticks utilised in calculating additional production for each category of minor irrigation works and have these yardsticks been verified on the basis of crops cutting experiments undertaken?

V. Land Reclamations.

- (a) What is the extent of culturable waste and other lands capable of reclamation?

- (b) How much land has been reclaimed by different agencies and how much of the reclaimed land has actually been cultivated?
- (c) Where land reclaimed has not been cultivated or has gone out of cultivation after reclamation, please give reasons for this.
- (d) What are the existing arrangements for follow-up cultivation of the reclaimed land?
- (e) Is there any legislation in force in the State for bringing fallow lands under cultivation and what is the effect of this legislation?
- (f) Give in brief :
 - (1) the particulars of land reclamation schemes undertaken during the first Five Year Plan and the first two years of the 2nd Plan.
 - (2) Cost of the schemes in each year.
 - (3) Acreage benefited and additional food production gained.
- (g) What are the schemes proposed to be undertaken during the rest of the 2nd Plan period; their estimated cost, acreage expected to be benefited and additional food production anticipated?
- (h) What is the scope for intensifying these schemes in the next two years of the plan period with a view to realise maximum additional production of foodgrains and what will be the cost involved?
- (i) What other schemes of land improvement such as contour bunding, strip cropping, dry farming etc. have been in operation in the State? Please give a note on the working of such schemes and their results.
- (j) What are the yardsticks utilised in calculating additional production for each category of land reclamation and improvement schemes and have these yardsticks been ratified on the basis of crop-cutting experiments undertaken?

VI. Fertilisers.

- (a) What is the annual requirement of the various types of nitrogenous and phosphatic fertilisers for principal food crops for irrigated and unirrigated areas separately?
- (b) What portion of your total requirement of fertilisers is being met at present?
- (c) What are the existing arrangements for the procurement, transport, storage and distribution of fertilisers?
- (d) What steps have been taken to keep the cost of fertilisers to the cultivators at the lowest level and what other facilities are being given to cultivators to encourage the use of fertilisers?

(e) Give in brief :

- (1) the particulars of land reclamation schemes undertaken during the first Five Year Plan and the first two years of the 2nd Plan,
- (2) Cost of the schemes in each year,
- (3) acreage benefited; and
- (4) additional food production gained.

(f) How far the use of fertilisers can in the next two years be intensified with a view to get maximum possible additional production? What will be the cost involved and the additional production anticipated?

(g) What are the yardsticks utilised in calculating additional production for each category of fertilisers and have these yardsticks been verified on the basis of crop-cutting experiments undertaken?

VII. Organic Manures

- (1) Please state the working of urban and rural compost schemes. What is the number of municipalities running urban compost schemes?
- (2) Give in brief the progress of Town Compost Scheme undertaken during the last few years, the actual expenditure and the additional food production gained.
- (3) What is the progress in regard to development of local manurial resources in villages? Indicate also in brief the actual expenditure and the additional production anticipated.
- (4) What is the progress in regard to the Night Soil Compost Scheme in Panchayats? Indicate briefly the actual expenditure and the anticipated additional production. If any of these Schemes are not making any good progress, what are the reasons and what remedies would you suggest?
- (5) To what extent green manuring is being practised, particularly in irrigated or other areas with assured rain-fall? What are the measures proposed for popularising green manuring?
- (6) What are the yardsticks utilised in calculating additional production for each category of manurial schemes and have these yardsticks been verified on the basis of crop-cutting experiments undertaken.

VIII. Seeds Schemes

- (1) Describe briefly the arrangements that exist in the State for multiplication and distribution of improved seeds.
- (2) Indicate the area under improved varieties of the principal food crops from 1951-52 giving separate figures for areas covered by seed distribution schemes and for natural spread.

- (3) Describe briefly the progress made in regard to the establishment of seed multiplication farms. How much improved seeds the State Government proposes to distribute out of these seeds farms by the end of the Second Plan Period?
- (4) What are the requirements of pure seed for the entire irrigated and unirrigated area under the food crops to be under improved seeds? What additional quantities do you require to abridge the gap between requirements and the existing production and what steps do you propose to take to meet this gap?
- (5) What are the yardsticks utilised in calculating the additional production for each category of seed schemes and have these yardsticks been verified on the basis of crop-cutting experiments undertaken?

IX. Plant Protection Schemes

- (1) What are the schemes at present undertaken for dealing with loss of crops by pests and diseases?
- (2) Give a brief note on the working of the various plant protection schemes in your State since 1951-52 and whether there is any proposal to intensify the schemes?
- (3) Describe briefly, if there are any schemes relating to improved agricultural practices and if so what are these schemes? Indicate also the actual expenditure on these schemes since 1951-52, the additional food-grains anticipated and the schemes that are proposed to be taken up in the remaining period of the Second Plan with the estimated cost.

X. General

- (1) What are the main reasons for the delay in the execution of food production schemes and how the State Govt. proposes to avoid such delays?
- (2) What system is followed in the State to check the progress of food production schemes at regular intervals?
- (3) What steps have the State Govt. taken to lay proper emphasis upon food production schemes in the C.D. and N.E.S. areas? What direct responsibility and authority is exercised by the officers of the Agricultural Department of the State over the working of food production schemes in C.D. & N.E.S. areas?
- (4) What steps have the State Govt. taken to fix food production targets at district, block and village levels?
- (5) Describe briefly the legislation introduced in the State during the last five years for assisting food production and do you consider any further legislation desirable or necessary for increasing food production in your States?

XI. Any other suggestions for making the area self-sufficient in food.

XII. Is there any scope for further improvement to be implemented under existing schemes?

INACCESSIBLE AREAS COMMITTEE REPORT

PART II

1. ASSAM



HILLY DISTRICTS OF ASSAM

General Observations

Lying astride the Brahmaputra and the Surma valleys, the Shillong plateau constitutes the Central core of the physiography of Assam. The plateau comprises of the Garo, the Khasi and the Jaintia Hills, bordered by the Cachar Hills in the south-east and the Mikir Hills in the north-west. The southern face receives a rainfall averaging about 150 inches; the maximum force of both the Bay of Bengal and the Arabian Sea monsoons is felt at Cheerapunji, registering the highest rainfall in the world, viz., 460 inches. The flora exhibits reaction to high humidity, copious rainfall and soil conditions peculiar to this region. The characteristic species of the region is *Pinus incularis* (p. Khasia). The northern and the western ranges have an average elevation of 2,500 ft.; the central plateau reaches an elevation of 6,000 ft. The rock is firm, notwithstanding the forces of nature despite heavy rainfall. The cascades characterising the landscape near Cheerapunji and Shillong provide a measure of the comparative freedom from erodibility of this region.

2. The eastern edge of the plateau is imbedded into the Himalayan arm running north to south, extending upto the Bay of Bengal. The Lushai Hills (Mizo Hills) lying to the south of Manipur faithfully stick to the north-south pattern of the mountain ranges in this region. The ruling elevation averages 3,000 ft. rising to 7,100 ft. in the south (Blue Mountains) and 8,000 ft. towards the Chin Hills. Rainfall is 75 to 100 inches (Aijal 83 inches), rising to 140 inches at Lungleh.
3. Sturdy and generally short of stature, the tribes inhabiting the plateau have a cheerful disposition. Each tribe preserves its cultural individuality apart from those adjoining the plains who have gradually succumbed to the cultural and economic influences of the plain's area.

4. Agriculture constitutes the main occupation of the tribes. They all subsist on shifting cultivation with the solitary exceptions of the Angami Nagas, who have developed an exceedingly efficient system of 'wet' terracing to supplement their jhuming. Their method of cultivation is as primitive as their tools. There is hardly any industry worth the name to take the load off the land which carries the entire burden of sustaining these tribes. Some of the tribes weave cloth. Exceedingly picturesque and colourful designs in cotton fabrics have been developed in the Naga Hills, each clan having its own colours. Vegetable dyes are still in evidence. Woollen weaves are uncommon.

5. The Inaccessible Areas Committee visited the Hills Division of Assam to gain a first hand knowledge of the problems facing those regions. The problems which are in consequence of the inaccessibility of this region are, in a broad sense, the same in all the districts. Variations exist only in the degree of severity of adverse conditions.

6. The hilly region of Assam is mostly comprised of Mikir and N. C. Hills, Garo Hills, Khasi and Jaintia Hills and Mizo Hills districts and the area as a whole is 22,724 sq. miles. According to the draft of the Second Plan, the daily consumption per capita is recommended at 15.5 ounces of foodgrains and 2.8 ounces of pulses. Applying this formula, and providing a margin for increase in population, the annual total demand is calculated at 1.92 lakh tons. The annual local production is to the tune of 1.82 lakh tons and the annual shortage of 0.10 lakh tons is being met from other sources.

7. While the Hill Districts excluding the Naga Hills constitute 40% of the total cropped area of the State the area under cultivation is only 8.5% of that area. Even in this area the general standard of cultivation at present leaves much room for improvement. There is yet much to be known about the best means of tackling the problem in areas where there has been a normal system of shifting cultivation and again of the background of land laws in some areas where there are no incentive for permanent cultivation.

8. The most effective remedy for inaccessible areas being accessibility the phasing of such a programme will, however, depend upon financial and technical consideration. No economic development of mountainous areas is possible without adequate communication facilities.

9. The Committee investigated the existing plans for development of communications either from the State Plan Funds or Special Central Grants, and examined whether it would be possible to enhance existing targets, and if so what would be the requirements for additional funds and the period over which the programme could be phased.

10. The economic problem of Assam hills is similar to other such regions. The countryside has been denuded of vegetation and soil fertility due to faulty cultivation, and the absence of effective terracing, and afforestation programmes.

11. The Committee's recommendations, therefore, are mostly for expanded and accelerated communication programmes and introduction of soil conservation and afforestation measures as a long-term policy.

12. With regard to maximisation of local production, suitable schemes for agricultural programmes are being recommended but care has been taken that these programmes may not result in further soil erosion. Attention is invited to para 1.20 of the General Report of the Committee in which a four-pronged drive was suggested as the most practical solution for problems of such areas. Local conditions in the hills of Assam are such that every emphasis has to be laid on such a programme of action to be adopted. The four points of the plan recommended are as follows :—

- (i) Accelerating existing road development programmes after reorientating them where necessary to suit local needs and conditions.
- (ii) Maximisation of local production of foodgrains in areas where intensified agriculture can be carried out without causing soil erosion.

- (iii) Development of Horticulture and other plantation crops in areas where agriculture is causing erosion of soil, and implementation of other non-agricultural programmes to supplement the local inhabitants' purchasing powers.
- (iv) Executing effective soil conservation measures in close coordination with road, agriculture and horticultural development plans and implementation of afforestation schemes on an extensive scale.

13. During discussions with the District Council at Tura, the capital of the Garo Hills District, it was brought to the notice of the Committee that elephants, wild beasts and monkeys are a great menace and cause considerable loss to the crops every year. The number of wild animals in the neighbouring cultivable areas should be kept under check and for that purpose, it would be necessary to issue more guns to the villagers at subsidised rates to scare away the animals and adequate rewards granted for killing such wild beasts which prove to be destructive.

Existing Food Production Programme.

14. The geographical area of the hill districts of Assam is 145.43 lakh acres and the net area sown is 4.50 lakh acres. The general State-wide schemes for food production such as minor irrigation, soil conservation, production and distribution of improved seeds, development of organic manures including green manuring, distribution of manures and fertilizers, plant protection measures, horticulture and issue of improved implements are also in execution in these Districts. Besides these, there are schemes such as those relating to the extension of wet paddy cultivation, extension of high altitude paddy cultivation and reclamation. Moreover, the facilities of power pump irrigation are also made available.

15. Keeping in view difficult local conditions, the food production schemes are generally working satisfactorily, but intensification of effort will be necessary to bring these areas within a reasonable state of comparison with other areas of the State.

16. Excepting oil-cake and bone-meal, the requirements of fertilizers are met on a pro-rata basis alongwith other States. Although there is a demand for oil-cake, its distribution has been stopped at the instance of the Government of India who are not prepared to issue it at subsidised rates. In regard to bone-meal, only half of the requirements of cultivators are met as the commodity is not available in sufficient quantity. The existing arrangement for supply of all nitrogenous fertilizers received from the pool of the Government of India is through the Agents appointed by the State. All chemical fertilizers are issued at subsidised rates. Subject to provision of funds, some quantities of fertilizers are also issued free.

17. The Committee are of the opinion that the question of subsidising fertilizers may be considered at high level. The resources of cultivators in these areas are not the same as in better developed areas and in the Committee's opinion for the initial stages of any fertilizer programme subsidization will be necessary.

Communications.

18. As stated in paras 1.21 and 1.22 of the General Report the lot of any inaccessible area cannot be improved without adequate facilities of accessibility by road, rail or sea and internal communications by bullock carts, tracks or footpaths. In the case of hill districts of Assam, this is all the more important as horticulture, which is the most important occupation of the people, needs a special coordinated programme of communications. Such a programme will enable the cultivator to bring his produce to the marketing and processing centres. Communication therefore is of vital importance in these areas and unless the roads and paths are opened the production of cash crops and food crops will be left without any incentive for their development.

19. The Assam State Industrial Development Conference has stated :—

“Small juice extraction units also appear to have considerable scope particularly in the border areas of the Hill Districts, provided cheap transport e.g., through ropeway was made available. There was also need for a comprehensive agricultural programme for the growing of plums, peaches, pears and other fruits in the State, particularly in the Hill areas, where there was considerable scope. It was also necessary to examine the scope of markets for canned fruits outside India. We also noted the possibilities of installing a paper mill, based on the Bamboo resources of the Kamrup and Goalpara and Garo Hills areas and again took note of the present difficulty of the non-availability of coal and limestone in spite of the knowledge that the deposit of coal and limestone occur in Garo Hills, exploitation of which is at present handicapped by lack of communications. Hence high priority for the improvement of communications in the area was recommended”.

20. Such a situation makes it necessary for Government to decide that, in recognition of the extreme economic backwardness of these hills, and other important considerations the population factor should not influence any consideration in favour of development of communication in such areas.

21. Although the need for opening out these areas has earned due recognition, progress of actual work up-to-date is not what it should be.

22. The position of the roads in the hilly areas of Assam is as under :—

23. The Government of India are primarily responsible for the development of roads declared as National Highways throughout the country and other National Highways in the Union Territories. All roads other than National Highways in States are primarily the responsibility of the State Government concerned. However, in order to help the State Government, grants are given by the Government of India for road schemes in States under the Central Aid Programme for the development of State roads of inter-State or economic importance and from the Central Road Fund Reserve. Besides, grants are given by the Ministry of Home Affairs for road development in scheduled areas under Article 275(1) of the Constitution.

24. Apart from the Dawki-Shillong-Jorhat National Highway which is entirely a Central liability, the Passi-Badarpur road project and seventeen other road schemes in the autonomous districts are being financed by the Government of India for providing road communication facilities in the backward hilly areas of Assam.

25. A total provision of Rs. 3.10 lakhs has been included in the National Highway programme for widening certain section of Dawki-Shillong-Jorhat National Highway during the current plan period, and the work is in progress. The road passes through the Khasi and Jaintia hills.

26. Estimated to cost Rs. 1.45 crores, the Passi-Badarpur Road is being financed entirely by the Government of India. The road, when completed, will provide an all-weather link in the road between Agartala and the rest of India. The first phase of the construction of the road was completed during the first plan period at a total cost of Rs. 70 lakhs. A provision of Rs. 75 lakhs for the construction of bridges and for black-topping the road has been included in the current plan. Estimates aggregating about Rs. 51.00 lakhs for the construction of certain bridges have so far been sanctioned.

27. Funds for road development in scheduled areas of Assam areas are provided by the Ministry of Home Affairs by way of grants under article 275(1) of the Constitution. The approved programme consists of 12 road schemes of first priority and five road schemes of second priority estimated to cost Rs. 3.20 crores and 1.12 crores respectively. Estimates aggregating Rs. 2.97 crores and 0.27 crores have been sanctioned for priority I and II schemes respectively. Expenditure aggregating Rs. 1.58 crores was incurred on the approved works during the first plan period. A sum of Rs. 97 lakhs was spent on these roads during the first two years of the Second Plan period. A supplementary programme consisting of seven road projects, estimated to cost Rs. 90 lakhs, which is proposed to be taken up by the State Government during the Second Plan period, is under the consideration of the Ministry of Home Affairs.

28. The partition of the Country has severely disrupted the economy of the areas of these districts. This conclusion has been fully borne out by surveys conducted by the Statistical Department of the State Govt. Prior to partition, the economy of these areas was linked up with that of adjoining districts which now form part of East Pakistan. The produce consisting mostly of perishables like oranges, pan leaves, pine-apples and also non-perishables like bamboos and timbers used to find a natural market in East Pakistan where they were conveniently transported through the various rivers and streams flowing down from the hills to the plains. The value of the goods exported to East Pakistan district from the United Khasi-Jaintia Hills district alone during pre-partition days was estimated at Rs. 2.5 crores per annum. For their essential requirements like food-grains, fish and other essential commodities, the people of these areas, in turn, depended on the supply from the neighbouring East Pakistan districts.

29. The problem of the border areas has been in the limelight for the last ten or eleven years and efforts have been made to alleviate

the difficulties. The attention which the problem has received, however, has been rather spasmodic depending on circumstances as to whether there was a comparative free trade allowed with the adjoining areas of Pakistan or not. Whenever the trade with the border in the areas of Pakistan was comparatively easy, the problem received less attention and whenever stringent measures were adopted by the Pakistan authorities the problem cropped up again and some action on the part of Government became inevitable. The situation created by the cordoning off of the border by the Pakistan authorities has amply proved that it is no longer prudent to leave the fate of these border people to the whims of the Pakistan Government. In any case, with existing state of relationship between India and Pakistan it is safe to assume that unless permanent alternative arrangements for the economy of the border people are made within India the situation will continue at a serious economic disadvantage to these border people. The time has, therefore, come to consider the permanent aspect of the rehabilitation of their economy.

30. The problem attracted the attention of the Government of India in 1952 when a high powered Committee headed by Shri H. V. R. Iengar, the then Secretary to the Ministry of Home Affairs was appointed to go into the whole question of relief of the border people and to submit specific recommendations in respect of both short-term and long-term measures. The Committee, after touring some of the border areas and detailed discussions with the representatives of the State Government, recommended the construction of a net-work of roads in the United Khasi-Jaintia Hills and Garo Hills to link up the border areas with the other areas of the State, and to arrange supply of food-stuffs and other essential commodities at subsidised rates.

31. To implement the recommendations of that Committee the State Govt. with the approval of the Government of India, initiated in 1953 a road programme at a total estimated cost of Rs. 256 lakhs financed out of Article 275 Grants. These road programmes were subsequently supplemented by the road programmes financed out of the State revenue and from other sources. Some of these roads have since been completed and are now open for motor traffic but due to the difficult terrain, and for some other difficulties such as limited working season, shortage of technical personnel, and shortage of bridge materials, work on the other roads though in progress is still incomplete. It is very unlikely that these roads will be ready for vehicular traffic before the end of the Second Five Year Plan period.

32. The additional road programme in the State Second Five Year Plan for the border areas of these districts has also been taken up at a total estimated cost of Rs. 173.70 lakhs. In spite of the construction of these roads, it is felt that a large part of the border in the far-flung areas of these districts will still be left without suitable road communications, without which quick movement of goods to and from the border areas will not be possible.

33. In early 1958, the State Government had also appointed two separate Committees under the Chairmanship of the Commissioner of Hills Division and Appeals, Assam, to examine the measures

required to be undertaken for the rehabilitation of the economy of the people living in the border areas of the Unite Khasi-Jaintia Hills District and the Garo Hills District adjoining East Pakistan, whose economic condition has been adversely affected consequent upon the stoppage of trade in the border markets. The Committee fully endorse the views expressed by the State Border Areas Committee and strongly recommend that the roads recommended by the Border Committee which have not yet been taken up should be completed. Besides, there are certain roads other than border roads which should also be constructed. This will involve an expenditure to the tune of Rs. 909.47 lakhs. The details of such roads together with their estimated expenditure is appended. (Appendix-Assam/'A')

34. The Committee are of the opinion that any marked economic development of this region cannot be possible without the construction of roads detailed above.

Agricultural Development and Research

35. The following schemes are recommended :

Soil Conservation and Afforestation

36. In order to relieve the immediate and long term difficulties of the tribal people inhabiting the hill Districts bordering Pakistan, the Committee recommend that the following measures should be adopted :

- (i) afforestation of barren hill tops to regulate the perennial flow of streams occurring in the region and to recreate perennial stream flows where such have been destroyed by erosion.
- (ii) the preservation of existing vegetative cover on the hill slopes, which may be subjected to shifting cultivation for the production of annual cereal food crops thus leading to heavy soil erosion in the exposed shifting fields ; by offering inducements to the tribes men concerned to retain the present many-storeyed forest cover to enable them to raise non-perishable cash crops such as pepper, cardamom and coffee at appropriate elevations ;
- (iii) by raising in the shifting fields along with the annual cereal crops non-perishable cash crops requiring full overhead sun light such as para-rubber and cashewnut at appropriate elevations, so that by the time the fields are abandoned after one or two years cultivation of these cash crops species would have made some progress towards establishment; and
- (iv) creation of terraces, where paddy can be grown with irrigation by gravity or by using hydrams to lift up water from perennial streams or without irrigation by adopting cultural practices such as farm-yard manuring, green manuring and use of fertilizers.

Schemes for the Afforestation of Barren hill tops

37. Estimated total expenditure—Rs. 3,60,000 Approx. or Rs. 60,000 p.a.

The scheme proposed for the hill districts as a whole under the Third Five Year Plan period is for the afforestation of 25,000 acres. It is recommended that, over and above, the normal activities, 6 square miles of barren hill tops should be taken up during the period of six years at the rate of 1 sq. mile per annum. The immediate benefit of the scheme will be that it will provide employment to the tribal people and the long term benefit is that it will help in minimising soil erosion, improvement of stream flows, easy availability of firewood, availability of timber for house construction and lopping for green manuring of the fields.

Scheme for the establishment of nurseries to facilitate cultivation of cash crops under the shade of existing forest trees

38. Estimated total expenditure—Rs. 1 crore and 5 lakhs. The propagation of the cash crops viz. coffee, pepper and cardamom needs establishment and proper maintenance of nurseries. It is recommended that one hundred such 'cash crops nurseries' may be established for the border areas for the period of six years. The details of expenditure are appended (Appendix-Assam|'B').

39. Each nursery is estimated to produce planting materials for about 100 acres of plantations of different types annually. Thus, 60,000 acres of plantations can be created in six years.

Subsidy Scheme for cashewnut and para-rubber to be grown in the fields of shifting cultivation.

40. Estimated total expenditure—Rs. 11 lakhs (on both schemes). The plantation of cashewnut covering an area of 6,000 acres during the period of six years is recommended. The cost of creation of such cashewnut plantations is estimated at Rs. 250 per acre. But as in respect of some of these plantations, the expenditure for full five years will not be required, the average expenditure per acre is estimated at Rs. 90 after taking into consideration the subsidy required. For 6,000 acres, the expenditure is estimated at Rs. 6,00,000, including the cost of cashewnut seeds. The details of expenditure are shown in Appendix—Assam/'C'.

Scheme for Terracing and Irrigation of paddy fields

41. Estimated total expenditure—Rs. 142.35 lakhs.

On the assumption that about 50 centres can be found where gravity irrigation or hydrams are available for 50 acres of paddy, the estimated cost of terracing and provision of irrigation facilities is Rs. 142.35 lakhs.

Scheme for development of cash crop.

42. Estimated total expenditure—Rs. 45 lakhs
Estimated additional production—750 tons.

The object of the scheme is to extend the cultivation of non-perishable cash crops like Areca-nut, Coconut, Black-pepper, Cashew-nut, Cotton, Ginger and Groundnut. A subsidy at the rate of Rs. 225 per acre subject to the maximum of Rs. 450 per family is proposed to be given for cultivation of these cash crops.

Scheme for Soil Conservation

43. Estimated total expenditure—Rs. 6 lakhs approx.

Additional production—3,095 tons.

Under this scheme, various forms of terraces will be made for bringing land under cultivation. A subsidy at the rate of Rs. 150 per acre is proposed to be given to the cultivators. A special subsidy at the rate of Rs. 450 per acre is, however, proposed in favour of Mizo District where the problem requires more attention and where the cost of labour is very high.

Scheme for land reclamation.

44. Estimated total expenditure—Rs. 18 lakhs.

Additional Production—800 tons.

It is proposed to give 90% subsidy to the people for reclamation work and bringing new areas under cultivation.

Scheme for Extension of Wet Paddy Cultivation

45. Estimated total expenditure—Rs. 12 lakhs.

Additional Production—1,800 tons.

The object of the scheme is to extend areas under wet paddy cultivation by contour bunding, irrigation, terracing and installation of power pumps. It is proposed to give a subsidy of Rs. 150 per acre to the cultivators.

Scheme for Minor Irrigation

46. Estimated total expenditure—Rs. 5 lakhs.

Additional Production—1,800 tons.

The scheme will provide small bunds and channels for irrigation. These projects will be taken up on self-help basis with limited Government assistance, not exceeding Rs. 160 per acre.

Scheme for the establishment and maintenance of demonstration Farms-cum-Nurseries

47. Estimated total expenditure—Rs. 5 lakhs

Additional Production—390 tons.

The main object of the scheme is to multiply improved seeds, plants and grafts for demonstration and distribution to the cultivators at subsidised rates. The details of expenditure are given in Appendix Assam/'D'.

Scheme for the Distribution of Seeds, Plants etc.

48. Estimated total expenditure—Rs. 10 lakhs.

Additional Production—1,500 tons.

With a view to provide these areas with quality seed and plants, it is proposed to distribute the same at subsidised rates.

Scheme for the distribution of Manures, Fertilizers and Pesticides.

49. Estimated total expenditure—Rs. 8 lakhs.

Additional production—400 tons.

It is proposed to distribute manures, fertilizers and pesticides at subsidised rates.

Scheme for the Agricultural Administration.

50. Estimated total expenditure—Rs. 6.50 lakhs.

The existing agricultural staff will be inadequate to implement any intensified programme in these areas. It is, therefore, necessary to strengthen the existing field staff. The details of expenditure are appended. (Appendix—Assam/'E').

Scheme for Works and Transport

51. Estimated total expenditure—Rs. 9.50 lakhs.

In order to facilitate the implementation of the special agricultural programme, it is proposed to construct some agricultural supply stores, office buildings and quarters in these areas. Some vehicles will also be necessary for transportation of seeds and manures and for ensuring proper supervision.

Scheme for Distribution of Improved Tools and Implements.

52. Estimated total expenditure—Rs. 5 lakhs.

It is proposed to subsidize the supply of improved tools and implements at an estimated cost of Rs. 5 lakhs.

Scheme for Fruit Preservation Units

53. Estimated total expenditure—Rs. 20 lakhs.

Three Fruit preservation Units with dehydration facilities for ginger are proposed to be set up. The surplus perishable cash crop i.e. orange, pineapple etc. produced in the inaccessible areas can be utilized for preservation. Imparting practical training in fruit preservation is also proposed. The details of expenditure are given in Appendix-Assam/'F'.

54. The estimated expenditure on all these agricultural development schemes is Rs. 411.95 lakhs.

Fisheries

55. Fish is relished as an item of food by most tribals. Scientific development of fisheries in these areas will ensure supplies of this important supplementary diet and reduce the demand on food-grains. The Committee accordingly recommend the establishment of Fishery Centres at Dalu, Jatrakona, Sibbari, Mahendraganj and Boldamgiri.

Marketing

56. It was brought to the notice of the Committee that in the absence of marketing facilities in the Baghmara area, pineapples were once sold at the price of 25 nP. for 200 fruits. As explained

earlier, partition has deprived the local cultivators from readily available outlets for fruits in Markets adjoining Indian districts of Assam, and has resulted in a glut. The provision of adequate marketing and processing facilities in these areas should form top priority with State Government.

Cottage Industry

57. Bamboo is found in abundance. In order to utilise this forest product to the best advantage of the tribal people, the Committee are of the opinion that crushing machines be installed to enable the people to derive maximum benefit.

58. The Committee also feel that detailed project studies should be undertaken by the State Govt. for the establishment of cottage industries. The proposal for a production unit for the utilization of China-clay and fire-clay may be further explored.

Similarly the manufacture of match-sticks and fibrous materials may also be examined.

Jhum Cultivation

59. Jhum Cultivation is most widely followed in these areas. As already recommended by the Committee in para 1.55 of their General Report, whatever material exists in the way of scientific research in Jhum Cultivation should be converted into definite plans for implementation in these areas.

60. There is, however, considerable room for improved practices in Jhum lands. The Committee endorse the views expressed by Shri M. S. Sivaraman, ICS, Adviser, Programme Administration, Planning Commission, in his note of April, 1957. (Appendix-Assam/'G'). It is recommended that the suggestions contained therein may be followed.

61. The Committee also recommend that some Jhum land should be taken over by Govt. for scientific cultivation for demonstration purposes to tribal villagers. It is hoped that seeing better yields in adjoining Govt. demonstration units, will persuade local cultivators to adopt better techniques.

Central Pattern of Assistance

62. As regards the pattern of Central Assistance to be given for schemes in these Districts, the Committee would like to emphasise that the normal pattern applicable to the rest of the country should be relaxed. After taking into account all the circumstances prevailing in the various inaccessible areas, the Committee have come to the conclusion, and accordingly recommend that the pattern of Central Assistance should be on the following basis:—

Pilot Schemes	100% Subsidy.
Other Schemes	66% Subsidy to be shared equally between the Centre and the State or the existing assistance whichever is beneficial to the State.

Financial Implications

63. The Committee find it difficult to form a fair estimate of what a special programme is likely to cost for the development of the

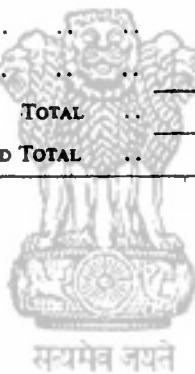
Distts. As mentioned in the General Report of the Committee (Paras 1.13 to 1.15) the Committee have already expressed their firm opinion that within the resources of normal planning at State level, districts like Mikir and N. C. Hills, Garo Hills, Khasi and Jaintia Hills and Mizo Hills can never hope to attain a state of development comparable with more fortunate and better developed areas. The problems of such areas should be deemed as National and special provisions, therefore, made in addition to existing plan schemes. As the size of the Third Plan is still in a very tentative stage, the Committee are only in a position to make equally tentative estimates. The size of the Second Five Year Plan of Assam State is Rs. 5793.69 lakhs, the share of the hills districts being Rs. 619.70 lakhs. Presuming that the Third Plan will be approximately $2\frac{1}{2}$ times the size of the Second Plan, Assam Hills Districts' share will be Rs. 1549.25 lakhs. Keeping in consideration their recommendation to allot special programmes for inaccessible areas, the Committee recommend that for Assam Hills Districts in addition to the normal $2\frac{1}{2}$ times increase from the Second to the Third Plan, schemes worth and extra 50% of the size of the Third Plan should be sanctioned. The total recommended outlay amounts to Rs. 2323.88 lakhs, which can be suitably phased over a period of time according to the availability of funds.



APPENDIX—ASSAM/‘A’

Statement showing the abstract requirements of road projects in the Border Areas of United Khasi-Jaintia Hills, Garo Hills and Mizo Districts, and also of road projects other than Border Areas in the Autonomous Districts of Assam

District		Mileage	Approx. cost	Remarks
<i>Border Roads</i>				
United Khasi-Jaintia Hills	.. .. ..	259	142.50	
Garo Hills	.. .. ..	111	73.50	
Mizo District	.. .. ..	1,244	388.00	
	TOTAL	1,614	604.00	
<i>Roads other than Border Roads</i>				
United Khasi-Jaintia Hills	.. .. ..	263	157.80	
Garo Hills	.. .. ..	28	16.80	
Mizo District	.. .. ..	50	42.00	
United Mikir & N.C. Hills	.. .. ..	165	88.87	
	TOTAL	506	305.47	
	GRAND TOTAL	2,120	909.47	



*Statement showing the Roads Recommended by the Border Committees of United K.J. Hills, Garo Hills & Mizo Districts
and not yet taken up*

44

Sl. No.	Name of Roads in order of priority	Direction	From where to where	Length	Approx. cost	Service	
1	2	3	4	5	6	7	
1	Mawsynram-Mawdon-Rengku	.. S.W. Shillong	From Mawsynram to Nawdon and Resigku via Lawbath and Phlansymeri villages.	15 Miles	15/- Lakhs	Will serve the Border Areas of United K.J. Hills	
2	Smit-Mawlat	.. .. ..	From Smit to Mawlat via Mawkynew and Lingshing villages.	25	12.50	Do.
3	A link road with Balat	.. ..	S.W. of Shillong Feeder road to link Bagi, Moheshkhola etc. with Balat.	30	15.50	Do.
4	Mawnihthied-Mawsahew	South of Shillong	From Mawnihthied to Mawshew through Laifduh, Wahkaiar, Nonglyngkien & Mawrap Villages.	7	3.50	Do.
5	Sohiong-Mawkneng-parlong Road	West of Shillong	From Sohiong to Parlong via Mawkneng.	15	7.50	Do.	
6	Sonapahar-Dorangre	.. .. ..	Do. From Sonapahar to Dorangre	40	20.00	Do.
7	Extension of the Pynursla Urmuih-Tar Road to Nengjri.	S.E. of Shillong	From Tmar to Nongjri to meet the Mawsmai-Shella Road at a nearest Point.	4	4.00	Do.	
8	Athlarem-Dawki	.. .. ..	Do. From Athlarem to Dawki	20	10.00	Do.
9	Rymbai-Borghat	.. .. ..	Do. From Rymbai to Borghat.	20	10.00	Do.
10	Ishamati-Bholaganj	.. .. ..	South of Shillong. From Ishamati to Bholaganj through Tyllab Bazaar	7	3.50	Do.
11	Jakrem-Ranikor	.. .. ..	S.W. of Shillong. From Mawkyrwa to Ranikor	36	13.50	Do.

12	Mawmluh-Mawshamok	..	..	South of Shil. long.	From Mawlih to Mawshamok	4	3·50	Will serve the border areas of the Distt.
13	Mawshamok-Laitkynsew	..	..	Do.	From Mawshamok to Laitkynsew	4	8·00	Do.
14	Habitat-Sonapehār	..	..	West of Shillong	From Habit to Sonapehār	32	16·00	Do.
	<i>Garo Hills</i>							
1	9th mile Agar-Parakhasia	..	..	South of Tura	From 9th mile Agar to Parakhasia	25	12·50	Will serve the border areas of Garo Hills.
2	12th mile of Tura-Dalu Road to Bagh-mare-Darugiri Road.	Do.		From 12th mile of Tura-Dalu road via Dandamangiri & Chakpat extending the same to Emang-giri meeting the Baghmara-Darugiri Road.		—	10·00	Will serve the feeder road to Tura-Dalu and Baghmara-Dam-giri Road.
3	Gasanpara-Chokpot	..	..	S.E. of Tura	From Gasanpara to Chokpot	18	6·00	Will serve as feeder road to Darlu-Bagh-mara road.
4	Extension of Baghmara Mahadeo road to Maheshkhola.	Do.		From Mahadeo to Maheshkhola		12	6·00	For border security purpose.
5	Mahendraganj-Dalu	..	..	South of Tura	From Mahendraganj to Darlu	32	16·00	Will serve the border areas of the distt.
6	Ampati-Bordamagiri	..	..	—	From Ampati to Boldamagiri	6	3·00	Do.
7	Boldamagiri-Mahendraganj	..	..	S.W. of Tura	From Boldamagiri to Mahendraganj	—	5·00	Do.
8	11th mile of Tura-Mankachar to West of Tura Mehim Agar.				From 11th mile of Tura-Mankachar road via Dengmakhara to Mehim joining the 9th mile Agar Parakhasia road.			Do.
9	Parakhasia-Ampati	..	..	South of Tura	From Parakhasia to Ampati	—	3·00	Do.
10	Ampatigiri-Mahendraganj	..	..	S.W. of Tura		18	9·00	Do.

1	2	3	4	5	6	7
Mizo District						
1 Longai Valley-Demagiri-Dumdama	North of Aijal	From Longai valley in Cachar Distt, running along the border to Demagiri & Dumdama.	Miles 350	Lakhs 16,500	Will serve the border areas North-east of Aijal.	
2 Sairang-Tut River	.. ..	North of Aijal	From Sairang of Tut-River	30	15.00	
3 Blasting of rocks in the Leolodgm River				—	1.50	To make the river navigable.
<i>1st Priority Roads</i>						
1 Sairang-Mamit-Kuarthak	..	North of Aijal	From Sairang to Muarthalh via Mamit.	34	8.50	
2 Bridge Camp-Govagulukhena-gonda				60	15.00	
3 Champhai-Khawgawl-Laungdai-N. Vaulphai-Keitum.			From Champhai through Khawzau, Langdai, North Vaulphai to Keitum.	80	20.00	
4 Tipermukh-Chawphai	..	North-East of Aijal.	From Tipermukh to Champhai	80	20.00	
5 North Vamlaiphai-Chuhlum-Thngi-Buslphi-Tio Tui pang.			From North Vamlaiphai through Cherblun.	50	12.50	
6 Hnathial-Dargo-South Vaulphai-Sangam-B-Montain-Bualpui-Sailia.				60	15.00	
7 Lungleh-Demagiri		South of Aijal	From Plidege Camp to Demagiri	40	4.00	
8 Lungleh-Taipang	..			70	18.00	
9 Damchura-Pedge Camp	..		From Damchura via Kuarthak to Pidge Camp.	150	33.00	
10 Champhai-Lungdai	.. ..		From Champhai via Dilkhawn to Lungdar	60	15.00	

2nd Priority

1	Aijal-Tuipuibari	..	..	..	From Aijal <i>via</i> Reiek to Tuipuibari.	50	12.50
2	Thengual-Selsip	..	..	..	From Lungthai <i>via</i> Mawpui, Athang to Chuhmum.	10	2.50
3	Lungtlian-Cherhnum	..	..	..	From Kuikthum <i>via</i> Sabuel and Burpui to Lungtch.	50	12.50
4	Kuikthum-Lungtch	..	..	..		70	18.00



Statement showing the roads proposed by different agencies and not yet included in any programme

Sl. No.	Name of Roads	Direction	From where to where	Length	Approx. cost	Service
1	2	3	4	5	6	7
<i>United Khasi-Jaintia Hills</i>						
1	Shillong-Diengpasoh Umthihs	..	N.E. of Shillong From Shillong through Dieng-pasoh, Kyrdem & Umpanai to Umthihs in the border of Mikir Hills.	Miles 150	Lakhs 90.00	The road will serve a vast fertile interior area in the North East lowlands of U.K.J. Hills District.
2	Mawtawar-Tyrsø	..	Do.	From Mawtawar near Shillong to Tyrsø in Bhoi area.	55	33.00 The road will connect the fertile low lands of Bhoi area with shillong.
3	Umran-Myndron	..	..	N. of Shillong From Umran on the G.S. Road to Myndron.	10	6.00 The road will link Myndron areas with G.S. Road at Umran.
4	Wahajier-Nartiang-Borato	..	East of Shillong	From Wahajier near Jowai to Borato via Nartiang.	13	7.80
5	Sutnga-Saipung	..	..	Do.	15	9.60
6	Mawiang-Myriaw	..	..	West of Shillong	16	9.60
7	Mawthawpduh-Langrim	..	..	Do.	4	2.40
<i>Garo Hills</i>						
1	Godalgiri-Inchakuri	..	..	From Godalgiri through Baniapara, Bandarajia, Detasing, Kharu-gaon, Marpara, Morkona and Bashbari villages to Inchakuri.	8	4.80
2	Bagugiri-Nayapara	..	..	From Bagugiri to Nayapara meeting the Baligatna-Bok-khora P.W.D. Road.	8	4.80

3	Mangchin-Rajobala	Sec. II.	..	12	7.20
<i>Mizo District</i>					
1	Dengtuir-Dasdar	..	..	50	42.00
	From Demagiri to Dasdar in Tripura State along the bank of Sajute river.				
<i>United Mikir and N.C. Hills District</i>					
1	Boithalangsu-Umbaso	..	..	8	4.80
2	Umpanai-Masalderang	..	..	30	6.00
3	Surfacing Haflong feeder Road	..			
	From Jatinga on Garampani Shil- char Road to Haflong Hills Station Road.			3	1.90
4	Garampani-Langka	..	..	40	24.00
5	Gunjeng-Henima	..	..	40	24.00
6	Tumpreng-Artukekongdeng	..			
	From Tumpreng via Donka, Nutan & Shilani villages to Artukekongdeng.			8	4.80
7	Kumarkata-Tumpreng Forest Road	..			
8	Borgran-Amtreng	..			
9	Dillai-Sarithajan	..			
10	Kumacherra-Chellai	..	..
	From Kumacherra to Chellai in Cachar District			8	3.87
	To connect S.E. Frontier of N.C. Hills in Raja Bazar in Cachar Distt.				

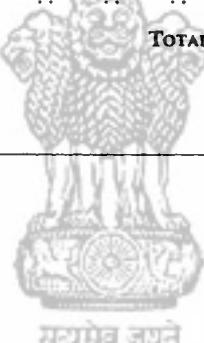
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APPENDIX—ASSAM /B'

Details of the estimated cost for the establishment of nurseries to facilitate cultivation of cash crops under the shade of existing forest trees

	Rs.
(i) Cost of 100 nurseries @ Rs. 4,000 per nursery	4,00,000
(ii) Pay of 100 nursery men @ Rs. 60 p.m. for six years	4,32,000
(iii) Pay & T.A. of Supervisory staff (3 officers of the rank of Divisional Conservation Officer and nine Rangers)	3,48,400
TOTAL	7,80,400
(iv) Stores, Stationery and Furniture etc.	30,000
(v) Expenditure on quarters for 100 nursery men @ Rs. 1,600 each.	1,60,000
(vi) Expenditure on quarters for Supervising staff and office building for Rangers	1,71,000
TOTAL	3,31,000
(vii) Subsidy Rs. 150 per acre for six years for 60,000 acres	90,00,000
TOTAL	1,05,41,400

say Rupees one crore and
five lakhs



APPENDIX—ASSAM/‘C’

Details of the estimated expenditure on Subsidy for the plantation of cashewnut and para-rubber

	Rs.
(i) Expenditure on plantation of cashewnut covering an area of 6,000 acres and cost of cashewnut seeds ..	6,00,000
(ii) Pay of 3 Foresters and 12 Forest Guards @ and Rs. 65 p.m. respectively for six years	77,760
(iii) Travelling allowances	32,400
(iv) Quarters for Foresters and Forest Guards	34,200
Total cost on cashewnut subsidy scheme	<u>7,44,360</u>
<i>Ad-hoc provision for Para-rubber subsidy scheme</i>	<u>3,55,000</u>
GRAND TOTAL	10,99,360
	say Rs. 11 lakhs



APPENDIX—ASSAM 'D'

Detailed Scheme for Establishment and Maintenance of Demonstration Farms-cum-Nurseries.

Particulars	K.J. Hills					Garo Hills									
	1st Yr.		2nd Yr.		3rd Yr.	4th Yr.		5th Yr.	1st Yr.	2nd Yr.					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)				
RECURRING :-															
<i>Pay of Establishment</i>															
One Field Asstt. (75-125) (in each farm)	450	1,400	2,000	2,100	2,200	450	1,400	2,000	2,100	2,200			
One Fieldman (60-100) (in each farm)	700	1,480	1,600	1,700	—	700	1,400	1,600	1,700		
Two Chowkidars-cum-labourers (in each farm)	—	650	1,350	1,400	1,450	—	650	1,350	1,400	1,450	
	450	2,750	4,830	5,100	5,350	450	2,750	2,750	4,830	5,100	5,350				
<i>Allowance & Honoraria :</i>															
D.A., C.A., R.C.A., etc.	150	750	1,250	1,300	150	750	1,250	1,300	1,350		
T.A.	100	200	300	400	300	100	200	300	300		
	250	950	1,550	1,700	1,650	250	950	950	1,550	1,700	1,650				
<i>Contingencies :</i>															
Seeds, Plants, Manures, Implements etc.	—	1,000	500	500	—	1,000	500	500	500		
Wages of Labourers	—	2,500	4,000	5,000	—	2,500	4,000	5,000	5,000	
Purchase & feed of cattle	—	2,000	1,500	700	500	—	2,000	1,500	700	500
Misc. Office contingencies and unforeseen expdr.	—	500	1,000	1,000	—	500	1,000	1,000	1,000	
Furniture	300	300	120	—	—	300	300	120	—	—
	300	6,300	7,120	7,200	7,000	300	6,300	7,120	7,200	7,000	300	6,300	7,120	7,200	7,000

Appendix—Assam/D—Contd.

Particulars	Mizo Hills					Mikir & N.C. Hills				
	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
RECURRING :—										
<i>Pay of Establishment :</i>										
One Field Asstt. (75-125) (in each farm)	..	..	450	960	1,500	2,000	2,100	450	960	1,500
One Field man (60-100) (in each farm)	..	..	—	720	750	1,500	1,600	—	720	750
Two Chowkidars-cum-labourers (in each farm)	..	..	—	670	700	1,300	1,400	—	670	700
	450	2,350	2,950	4,800	5,100	450	2,350	2,950	4,800	5,100
<i>Allowance & Honoraria :</i>										
D.A., C.A., R.C.A., etc.	..	..	..	300	1,550	1,800	2,900	3,000	150	600
T.A.	..	..	..	250	300	500	500	500	100	100
	550	1,850	2,300	3,400	3,500	250	700	700	900	1,400
Contingencies :										
Seeds, Plants, Manures, Implements etc.	..	..	..	—	1,000	1,250	1,000	800	—	1,000
Wages of Labourers	..	..	..	—	3,000	5,000	6,000	6,000	—	2,450
Purchase & feed of cattle	..	..	..	—	2,000	7,000	1,000	1,000	—	2,000
Misc. Office contingencies and unforeseen expdr.	..	..	..	—	1,800	1,000	800	600	—	500
Furniture	..	..	..	—	500	500	—	—	300	—
	—	7,800	9,750	8,800	8,400	300	5,950	7,150	8,800	9,350

Appendix—Assam/‘D’ Contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
RECURRING :	1,000	1,000	3,500	14,000	14,000
NON-RECURRING :—										
Cost of land	5,000	5,000	—	5,000
Reclamation etc.	2,000	2,000	1,000	2,000
Construction	17,000	25,000	10,000	2,000
Non-recurring :	24,000	30,000	12,500	3,000
							Total	25,000	40,000	26,000
								17,000	17,000	17,000
									17,000	17,000

Appendix—Assam/‘D’ Concl.

APPENDIX ASSAM/1/E;
Detailed Scheme for Agricultural Administration.

Particulars	U-K-J. Hills						Garo Hills						(in Rupees)
	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
RECURRING :—													
<i>Pay of Establishment :</i>													
Agrl. Inspectors in S.A.S. Class I (Rs. 150-350). Three for K.-J. Hills and two for each of Garo, Mizo, Mikir & N.C. Hills													
Agrl. Demonstrators in S.A.S. Class III (Rs. 75-125 p.m.)													
12 for K. J. Hills.													
8 for Garo Hills.													
8 for Mizo Hills.													
8 for Mikir & N.C. Hills													
One Upper Division Asstt. (Rs. 175-275)													
4 U.D. Asstt. (125-175)													
One attached to each D.A.O.'s Office													
3 L.D. Assts. (Rs. 60-125) one attached to each S.A.O's office													
4 Typists (Rs. 60-125) one attached to each D.A.O's office													

Pay of Establishment :

Agrl. Inspectors in S.A.S. Class I (Rs. 150-350). Three for K.-J. Hills and two for each of Garo, Mizo, Mikir & N.C. Hills

Agrl. Demonstrators in S.A.S. Class III (Rs. 75-125 p.m.)

12 for K. J. Hills.

8 for Garo Hills.

8 for Mizo Hills.

8 for Mikir & N.C. Hills

One Upper Division Asstt. (Rs. 175-275)

4 U.D. Asstt. (125-175)

One attached to each D.A.O.'s Office

3 L.D. Assts. (Rs. 60-125) one attached to each S.A.O's office

4 Typists (Rs. 60-125) one attached to each D.A.O's office

Appendix—Assam 'E'—contd.

Particulars	Mizo Hills					United Mikir & N.C. Hills		
	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	1st Yr.	2nd Yr.	3rd Yr.
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1)								
RECURRING :—								
<i>Pay of Establishment :</i>								
Agri. Inspectors in S.A.S. Class I (Rs. 150—350). Three for K.J. Hills & two for each of Garo, Mizo, Mikir & N.C. Hills.	600	3,800	3,900	4,000	4,100	3,600	3,800	3,900
Agri. Demonstrators in S.A.S. Class III (75—125 p.m.) 12 for K.J. Hills.	9,000	9,200	9,400	9,600	9,800	9,000	9,200	9,400
8 for Garo Hills.								
8 for Mizo Hills.								
8 for Mikir & N.C. Hills								
One Upper Division Asstt. (Rs. 175—275)								
4 U.D. Asstt. (125—175)	1,500	1,550	1,600	1,700	1,800	1,500	1,550	1,600
One attached to each S.A.O's office.								
3 L.D. Assts. (Rs. 60—125) one attached to each S.A.O's office								
4 Typists (Rs. 60—125) one attached to each D.A.O's office	720	750	780	800	820	720	750	780
	720	750	780	800	820	720	750	780

Appendix—Assam ‘E’—contd.

Appendix—Assam ‘E’—contd.

APPENDIX—ASSAM/F'

Detailed scheme for Fruit Preservation units at Silchar, Tura & Shillong

Particulars (for six months)	1st yr.	2nd yr.	3rd yr.	4th yr.	5th yr.	Total
	1	2	3	4	5	6	7
A. Recurring						
I. Pay of officers						
One General Manager in the scale of Rs. 400—800	2,400	5,000	5,200	5,400	5,600	23,600
Three Managers in the scale of Rs. 200—500 p.m.	3,600	7,600	7,700	7,900	8,000	34,000
One sales Manager in the scale of Rs. 200—500 p.m.	1,200	2,600	2,800	3,000	3,200	12,800
	7,200	15,200	15,700	16,300	16,800	71,200
II. Pay of Establishment						
Three Production Assistants in the scale of Rs. 150—350 p.m.	2,500	5,500	6,000	6,400	7,000	27,400
Three Factory Attendant-cum-Store keeper in the scale of Rs.100—200 p.m.	1,800	4,000	4,500	4,800	5,000	20,100
Three Electrical Mechanic in the scale of Rs.100—200 p.m.	1,800	4,000	4,500	4,800	5,000	20,100
Three Boilerman in the scale of Rs. 75—125 p.m. ..	1,350	3,000	3,250	3,500	3,750	14,850
One Head Assistant for the office of the General Manager in the Scale of Rs. 150—250 p.m. ..	900	2,000	2,250	2,400	2,600	10,150
Three Head Asstt-cum-Accountant for the Offices of the 3 Managers in the scale of Rs. 125—175 p.m. ..	2,250	4,600	4,800	5,000	5,300	21,950
One Accountant for the office of the General Manager in the scale of Rs. 125—175 p.m.	750	1,600	1,700	1,800	1,900	7,750
Four Upper Division Assts. in the scale of Rs. 125—175 p.m.	3,000	6,500	7,000	7,500	8,000	32,000
Four Lower Division Assts. in the scale of Rs. 60—125 p.m.	1,440	3,000	3,250	3,500	3,750	14,940
Four Typists in the scale of Rs. 60—125 p.m.	1,440	1,500	1,600	1,700	1,800	8,040
Twelve Grade IV Establishment in the scale of Rs. 28—40 p.m.	2,020	2,100	2,250	2,300	2,350	11,120
	19,250	37,800	41,100	43,700	46,450	1,88,350

1	2	3	4	5	6	7
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III. Allowance & Honoraria :

D.A., C.A., C.L.A. etc.	..	10,000	20,000	21,000	22,000	22,750	95,750
Travelling Allowance of Officers	.. ..	2,000	5,000	5,000	5,000	5,000	22,000
T.A. of Establishment	..	750	3,000	3,000	3,000	3,000	12,750
Stipend for Trainees ..	..	—	9,000	9,000	9,000	9,000	36,000

Contingencies :

Raw Materials ..	..	—	180,000	180,000	180,000	180,000	720,000
Wages of Labourers ..	..	—	25,000	45,000	45,000	45,000	160,000
Misc. Contingencies ..	..	1,500	12,000	15,000	10,000	9,000	47,500
Misc. Unforeseen Expdr. ..	..	1,500	6,000	6,000	3,000	1,500	18,000
Stamps & Stationeries ..	..	1,500	3,000	4,700	4,000	4,000	30,700
Furniture ..	..	3,000	1,500	—	—	—	4,500
Petty Repairs ..	..	—	—	5,000	3,000	1,500	9,500
Installation charges ..	..	3,000	1,500	—	—	—	4,500
Electricity charges, etc. ..	..	300	3,000	3,000	3,000	3,000	12,300
TOTAL ..		10,800	115,000	2,58,700	248,000	244,000	876,500
TOTAL RECURRING ..		50,000	220,000	352,500	347,000	347,000	1,316,500

Non-Recurring :

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Machineries and Laboratory equipments	300,000	64,000	30,000	—	—	394,000
Type-Writers	4,000	—	—	—	—	4,000
Cost of Land	15,000	—	—	—	—	15,000
Development of Land	12,000	3,000	1,500	—	—	16,500
Water Supply	10,000	10,000	—	—	—	20,000
Installation of Electricity	9,000	3,000	—	—	—	12,000
Buildings & Quarters	100,000	100,000	16,000	3,000	3,000	222,000
TOTAL NON-RECURRING ..		450,000	180,000	47,500	3,000	3,000	683,500
GRAND TOTAL ..		500,000	400,000	400,000	350,000	350,000	2,000,000

APPENDIX—ASSAM/‘G’

NOTE ON JHUMMING IN N. E. F. AGENCY BY SHRI M. S. SIVARAMAN, I.C.S., ADVISER, PROGRAMME ADMINISTRATION, PLANNING COMMISSION (APRIL, 1957)

1. 99% of the total cultivated area is under a system of shifting cultivation locally known as jhuming which involves the cutting of trees and plant growth on steep hill slopes during the dry season, from November to March. The jhumed area is cropped for two seasons and then abandoned for some years to enable natural recuperation of soil fertility to take place and the same area is once again jhumed. Jhuming has been extended to most of the areas where it can be conveniently done and with every increase of population the jhuming cycle naturally tends to become shorter. This in turn affects the level of fertility and results in reduced crop yields and increasing food shortage. The practice involves considerable arduous work during the off-rainy season which also synchronises with the period of other developmental activities like construction of roads, bridle and mule paths, bridges, buildings etc. Movement of officers for local inspection takes place largely in this season and this involves great demand for labour from the local population for carrying baggage and other incidental work. Paradoxically enough every increase in beneficial activity intended to raise the standard of living and span of life in effect affects agricultural production by drawing workers away and thereby depresses the existing low standards.

2. It is therefore no exaggeration to say that, in N.E.F.A., life and developmental activities revolve round ‘jhuming’ for which a practical solution has to be found if food production is to go up without detriment to local development. If the burden of work involved in cutting trees can be lightened and the fertility of the jhumed area improved we should have found the key to the problem of development of backward areas of this type which are inaccessible and will continue to be inaccessible for many years to come.

3. As jhuming overshadows every other activity I shall deal at some length with it and with my suggestion for tackling the problem of jhuming in a practical and inexpensive way.

4. Jhuming is at once a method of agriculture and a way of tribal life as various communal rites are commonly observed to ensure its success. For instance, as many as ten different rites Rikti, Kombi, Mopun Binyat Arnat Rannam, Eruk Eri, Pipak, Solung, Etor, are observed by the Miniyongs of Siang Division, in connection with jhuming. Food production in NEF Agency depends almost entirely on cultivation of hill slopes and as these slopes are very steep—often 1 in 2 or 1 in 3—there is no other alternative to jhuming in NEF Agency except near the banks of rivers. It will therefore be wrong to decry jhuming while popularising terrace cultivation in the very limited places where this can be done.

5. Apart from this, it is a mistake to assume that Jhuming in itself is unscientific land use. Actually it is a practical approach to

certain inherent difficulties in preparing a proper seed bed on steep slopes where any disturbance of the surface by hoeing or ploughing will result in washing away of the fertile top soil. The tribal people therefore take care not to plough or disturb the soil before sowing. The destruction of weeds and improvement of tilth necessary for a proper seed bed are achieved with the help of fire. Seeds are dibbled ahead of the onset of the monsoon so that these may not be washed away and this produces a light cover of protective vegetation which reduces erosion of the soil when the heavy rains begin. In most of the interior areas where communication is not developed and no sufficient land suitable for terracing is available, jhuming alone can be done for the present and as such every effort should be made to improve the fertility of the jhumed land.

6. At present the restoration of soil fertility depends mainly on the decay of weeds, grasses and leaves and this level of fertility is greatly reduced in two years of cropping. In order to hasten the restoration of fertility, all weeds and grasses in such areas should be suppressed by leguminous cover crops which fix nitrogen in the soil and the non-descript trees which are not all leguminous should be replaced by leguminous shrubs which can be cut or destroyed easily.

7. The above objects can be completely achieved by growing in the third year when the jhumed land is left fallow, perennial red gram (Arhar) which may be dibbled by April, 12 inches apart along the contours of slopes and in rows four feet apart. In every acre about one to two pounds of seeds of *Calapagonium Mucunoides*, a very fast growing leguminous creeper may be sown when the Arhar is about 3 to 4 weeks old. *Calapagonium* forms a thick matted growth within two months and prevents soil erosion completely and suppresses weeds and grasses. In 1952-53 I have successfully introduced *Calapagonium* for putting down weeds and grasses in coconut, pepper and citrus gardens in areas of heavy rainfall like Malabar, South Kanara and the agency portions of Vizagapatnam District.

8. The Arhar will provide extra food for the people, fix nitrogen in the soil and also improve soil fertility by leaf-fall. *Calapagonium* dries up in December and January and can be therefore destroyed by fire before sowing other crops. Left to itself the seeds get self-sown and the plants fix very large quantities of nitrogen in the soil. A variation of this method will be to grow perennial Arhar and long duration cowpeas in the Kharif season and a pea or gram crops in the rabi season or perennial leguminous shrubs like *Tephrosia Candida* or *Crotalaria Anagyroides* which are found to grow very well in NEF Agency and Assam. All the legumes mentioned above will grow up to 4000 feet and will suit the bulk of the Jhumed lands. For areas above this elevation, the choice may be made from local legumes.

9. Though *prima facie* these suggestions can be implemented even without conducting preliminary experiments, it is desirable that the Agricultural Department should carry out such experiments in selected Jhumed areas so that the tribals are actually convinced of the merits of the recommendations. Yearly soil analysis from the first year of jhuming will throw light on the extent of decline in

soil fertility by cereal cropping and the improvement that takes place from growing legumes and this will help to fix the period of jhum cycle necessary for resuming cereal cultivation.

10. While experimenting to determine the minimum duration for a jhum cycle, it should be possible to combine observations on the effect of growing legumes after complete destruction of the trees in a portion of the jhumed area by using an arsenical preparation like the Atlas tree killer. This is a simple method of killing a tree and all that is required is to ring bark a narrow strip and apply the chemical to the Cambium with a brush and the tree including the roots will be killed in due course. When trees are destroyed in this manner every care should be taken to see that those held sacred by the tribals are not interfered with. As and when the tribals are convinced of the efficacy of the method of restoring soil fertility by growing legumes without waiting for years, it will not be difficult to restrict the use of the chemical to existing jhumed lands with a view to prevent large scale destruction of trees in other areas. Ultimately the shifting of cultivation will stop and the jhumed land will be cultivated from year to year with cereals followed by legumes or a mixed crop of cereal and pulses. There is no doubt some loss of fertility by soil erosion when weeding is done; but this may be offset by incorporating into the soil composts or leaves of legumes at the time of weeding. When communications are more fully developed and marketing facilities are available, it may be possible to grow on the jhumed land valuable perennial crops like pepper, long pepper, rubber etc. and obtain food from outside in exchange. Such crops will help to reduce erosion but the possibilities of growing these crops will have to be shown in the Government farms.

11. The suggestions which I have made, if followed, will help to :—

- (1) improve fertility of the jhumed land and produce more food.
- (2) Shorten the jhum cycle and thereby enable larger areas to be cultivated in a year.
- (3) help to grow a pulse crop of arhar, cowpeas etc. while the land is allowed to recuperate.
- (4) minimise soil erosion.
- (5) eliminate the cutting of trees and thereby enable the raising of rabi crop and release more labour for other developmental activities.

and

- (6) convert the jhumed lands into areas of stabilised, permanent cultivation.

INACCESSIBLE AREAS COMMITTEE REPORT

PART II

2. NORTH EAST FRONTIER AGENCY

संवाद संग्रह

NORTH EAST FRONTIER AGENCY

General Observation

The North East Frontier Agency is bounded by Bhutan to the west, the Tibetan and Sikang regions of China to the north and east and Burma to the south-east, and covers an area of 31,438 square miles. Except for the riverain tracts adjacent to the plains approach to the area is restricted to air travel. It has only been with the greatest difficulty that a few strips of level ground have been found for conversion into air fields. Most villages are on steep slopes, with the houses rising in precipitous patterns. The villages are in most areas located on hilltops and are widely scattered. Although the regular monsoon begins in April and continues heavy up to 200 inches in the year, until October, it may rain at any time, turning narrow mountainous paths into nightmare lanes of slippery and leech infested mud. It is easy to visit the headquarters of the Divisions and even a few outposts where airstrips have been made, but it requires a major expedition to penetrate deep into the interior. Elaborate arrangements of portage form a prerequisite to touring, and even for routine work arduous tracks of 20/30 miles can be the order of the day. The countless streams and rivers, which become raging torrents during the rains, have forced the people to devise remarkable cane-bridges which, at their best are marvels of untutored engineering skill. The people are very strong and their ability to work hard is commendable. Both males and females are found working all day in their Jhumlands and fields leaving only very old folks in their houses to look after the children. The local inhabitants, however, are on the whole, fairly contented in day to day needs when compared to ordinary peasants in other parts of India. They have developed an elaborate system of barter, which provides their rural economy with a solid base. To them till recently 'money' was hardly of any economic value. In the interior, the 'wealth' of a tribal or individual is still calculated by the number of Mithuns (Boas Frontalis) one has. The Apa-Tani tribe, however, estimates wealth in terms of land also. Crimes and disputes are generally settled by Village Councils on the basis of compensation. Serious crime is, however, handled by the Administration. Remarkable enough there are no tenants, or lawyers and only a handful of merchants in areas bordering the plains. Justice is quick and easy. The spirit of co-operative effort can be an object lesson to 'civilized' populations. Since Independence a fresh approach to their problems and determined effort by devoted Government personnel dedicated to the uplift of NEFA's tribal population, have created a certain degree of confidence and enthusiasm amongst the local people and a carefully planned and patiently implemented policy will in due course make these tribes active partners in the Nation's life.

2. Before Independence, these tribes, mostly left to themselves in prolonged seclusion, had created a way of thinking which will take time to develop the necessary stamina to weigh the value of developmental programmes in their so called 'civilized' context.

3. NEFA presents a special problem when compared to other inaccessible areas in India. It would be worthwhile to quote the Prime Minister in order to appreciate the nature of the problem which is posed by the special conditions prevailing in these areas :—

"I am alarmed when I see—not only in this country but in other great countries too—how anxious people are to shape others according to their own image or likeness and to impose on them their particular way of living. We are welcome to our way of living, but why impose it on others ? This applies equally to national and international fields. In fact, there would be more peace in the world if people were to desist from imposing their way of living on other people and countries.

I am not at all sure which is the better way of living, the tribal or our own. In some respects, I am quite certain their's is better. Therefore, it is grossly presumptuous on our part to approach them with an air of superiority, to tell them how to behave or what to do and what not to do. There is no point in trying to make them a second-rate copy of ourselves".

4. Consequently the policy of Government of India boils down to a course of action which admits that, although it is neither possible nor desirable to let life and economic conditions in tribal areas be permitted to drift indefinitely in their present form, every caution should be taken against haste, over administration, and the import of outsiders above the minimum essential number. The report of this Committee has also, therefore adopted a course in compliance of this policy pattern. In our recommendations we have kept in mind the local genius of the tribals which should earn respect, so that such tribal traditions which are healthy are not discouraged.

5. We have also been careful that our recommendations may not infringe with local customary rights over lands and forests and our proposals necessitate only the very minimum technical staff from outside tribal territory. Our recommendations contain schemes which are simple in nature and a few in number, and not divergent in any extreme form from existing agricultural practices of the area.

6. In the pre-independence days, the tribals received little or no Governmental attention, and whatever attention was given, was mostly in times of emergency or lawless-ness and in the form of punitive action. Tribals in foothills areas have not remained free from exploitation by the businessmen of the plains. As such their past experience of 'civilization' is somewhat bitter. The Committee, therefore, are careful that their recommendations are in keeping with the policy being adopted by the NEFA Administration.

7. The Committee are of the opinion that any new schemes of a radical nature; or an immediate acceleration of existing schemes, will disturb the accepted pattern of administration and development programmes in NEFA in the context of the very special conditions that prevail locally.

8. Such progress of existing schemes which is being held up due to non-availability of technical personnel, is not a healthy reflection, and indicates a lack of emphasis on very important aspect of development work in inaccessible areas and can be brought upto date within a minimum period of time provided due attention is given to the Committee's recommendations in its General Report (para. 1.38). The Committee agree with the view that it is not possible for the Agency Administration to attempt a fresh or accelerated pattern of development in their area, with the quantity and quality of existing staff and resources. Such a course is also not advisable due to the accepted policy which governs our approach while dealing with NEFA. Our recommendations are, therefore, broad and general in nature for guidance within the framework of existing plans. Unlike, as for other areas under report, very few new schemes are being recommended in a particular way. The question of any extra financial implications, therefore, does not arise.

9. Lately this area has assumed increased strategic importance at international level. As such it is not possible for this Committee to estimate to any reliable extent what the food requirements of the area will be, especially estimates pertaining to stocks which are air-lifted, as their quantity will always depend upon the number of service, security and other personnel posted in the area.

10. Due to special circumstances prevailing in NEFA, it was not considered necessary for the full Committee to undertake the tour. Under the advice of the Ministry of External Affairs only a team consisting of the Chairman, and two members visited the area.

11. The Committee undertook a tour of the Subansari Division according to the programme chalked out by the NEFA Administration. During the course of the visit, it was felt that a solitary visit to the Subansari Division would not be enough for the Committee to form a detailed assessment of local conditions and problems as a whole. As such it was decided to arrange a subsequent visit to the Headquarters of NEFA for detailed discussions with the Political Officers and Agricultural staff of the different divisions of NEFA. Accordingly, a meeting was held at Shillong on the 10th September, 1959.

12. As regards the nature and degree of inaccessibility of problem areas in NEFA, the Committee had more than a fair experience of the difficult local terrain, and their sixty-eight miles trek to Palin and back provided a first hand knowledge of local difficulties in communications and unexpected rainfall made the Committee's experience all the more authentic.

Existing Food Position

13. The figures already shown in para. 1.10 of Part I General Report pertaining to the area, population, present output of foodgrains and estimated annual requirements of foodgrains were subsequently amended by the NEFA Administration when the Committee

visited the headquarters of NEFA for discussions. The revised figures according to them are as under :—

1. Area	..	..	..	..	31,438 Sq. miles
2. Population	..	..	..	..	4.5 lakhs
3. Inaccessible area under cultivation	..	..	..	..	1,52,048 Acres
4. Present output of foodgrains	..	..	..	..	60,270 tons
5. Estimated annual requirements of foodgrains	..	..	..	..	1,00,000 tons.
6. Deficit, if any	..	..	..	..	39,730 tons.

• 14. The food problem, as tackled by the Government, seems to be mainly confined to feeding the administration and service outposts located all over NEFA. The issue of any foodgrains to the local tribal population was found necessary only on some solitary occasions during floods or drought. In actual fact, the tribals are not 'civilised' enough to beg and instead supplement their consumption of foodgrains with their own ingenuity, efforts and determination. The tribal grows only 3-4 months of his annual requirements of foodgrains. The rest he makes up with his ingenuity, knowledge of jungle craft, and hunting; thus supplementing his food with wild game, tubers, jungle roots, bamboo shoots, herbs, dried fish, millet and rice beer. He is amazingly fit and his diet shows better balance than what is found elsewhere in the country. As compared to an average Indian peasant, his diet contains 16 per cent more calories, 17 per cent more protein, 70 per cent more calcium and 33 per cent vitamin 'A'. But the problem of insufficiency in the actual quantity of foodgrains is prevalent.

15. Maize and root crops where popular, are being encouraged and necessary help is being given to the tribals for increasing the production of these crops. Similarly, improved variety of millets are being imported and distributed to the local cultivators to help them increase their indigenous production.

16. The Committee considered the recommendation that sufficient supplies should be readily made available with subsidised prices kept low enough to be attractive in existing markets. It could be argued that the presence of foodgrains in an easily available form, may gradually tempt the tribals to use more foodgrains, without creating any impression of spoon-feeding. But there arises a problem of land route communications as existing air droppings are not even sufficiently available for meeting existing requirements of Government personnel, both civil and military, prepared over different outposts all over the Agency. It is also feared that providing foodgrains at subsidised rates in the interior will actually result in discouraging the local population from intensifying their agricultural activities, and in the long run they may become dependent on imported foodgrains and thereby lose their great quality of self-reliance and self-confidence. Experience has also shown that in areas where impact of outside money has taken place local manpower is inclined to

ignore their cultivation in favour of ready cash which they can earn by manual work.

17. As already stated, air dropping is confined to feed Service and Administrative outposts located all over NEFA. During the calendar year of 1958, airdropping amounted to 5,095 tons and during 1959 approximately 10,000 tons were airdropped. Transportation charges were paid @ Rs. 750 per hour per sortie of 7,300 lbs. A considerable sum, therefore, was incurred on transportation, and this, in the opinion of the Committee, can only be avoided if roads or mule tracks connecting the plains to the hills and within hilly interior are built up.

Communications

18. At the outset, lack of communications poses to be the biggest problem. There are outposts which are often more than two weeks march from headquarters, and marches of several days even for routine matters, are not uncommon. The time and money wasted present a serious problem to any developmental programme. The difficulties of an exceedingly hazardous terrain are further aggravated by wet weather conditions which worsen the conditions of inaccessibility in remote areas.

19. The present road programme, including that which was entrusted to the Army, is making good progress and the tribals lose little time to make ample use of these roads for trade and marketing. This indicates that once amenities are provided without any suggestion of 'imposition' of new patterns of life, the tribals themselves will take modern amenities in their normal strides towards progress.

20. As already stated in paras 1.21 and 1.22 of the General Report, the lot of any inaccessible area cannot be improved without adequate facilities of accessibility by road, rail or sea and internal communications by bullock carts, mule tracks or footpaths. In the case of NEFA, this is all the more important as the Committee's recommendations for Agricultural and Horticultural programmes will need a special coordinated programme with Communications.

21. In addition to construction of bridle paths, porter tracks in the interior, the First Five Year Plan aimed at the completion of some approach roads to the Divisional Headquarters. The Administration attached some importance to the development of communications in the Agency and in the First Five Year Plan an expenditure of Rs. 71.59 lakhs was incurred on such subjects.

22. The Committee would reiterate the importance of proper maintenance of existing roads as mentioned in their General Report (Paras 1.21 to 1.28).

23. Though it is the intention of the Administration to connect all Administrative Centres in the interior, by roads or mule paths, it will take a long time to achieve such an objective.

24. During the First Five Year Plan, the following all-weather and fair weather roads, bridle paths and porter tracks against an overall target of 4,366 miles were completed :

(a) all-weather roads	...	...	...	...	...	229 Miles
(b) fair-weather roads	...	...	...	...	...	226 "
(c) bridle paths	...	...	...	...	...	256 "
(d) mule paths	...	...	...	...	...	207 "
(e) porter tracks	...	...	...	...	...	2,541 "
					TOTAL	3,459 "

25. During the Second Five Year Plan, it is proposed to complete a total of 5,160 miles of roads, mule paths, and porter tracks including improvement of some roads and tracks.

26. An amount of Rs. 144.87 lakhs has so far been spent on constructions of roads and tracks and the physical targets achieved so far are given below :—

(a) Roads	...	...	...	...	...	654 Miles
(b) Mule Paths	...	...	...	...	...	576 "
(c) Porter track	...	...	...	...	...	2,878 "
(d) Improvement of roads	...	...	...	...	...	76 "
(e) Improvement of tracks	...	...	...	...	...	199 "
					TOTAL	4,383 Miles

27. The Committee were informed that in Third Five Year Plan it is the intention to accelerate the pace of construction of roads and mule paths compatible with the local manpower and other resources.

28. Due to difficult terrain and paucity of local labour, the pace for construction of roads and mule paths naturally has its limitations. The hills of NEF Agency being geologically very young, it takes a long time for newly constructed roads to stabilise, and each year considerable manpower has to be deployed for the maintenance of newly constructed roads. Frequent land slides in these areas would require efforts to be concentrated on the maintenance of roads in NEFA. Even the porter tracks and bridle paths require constant clearance and maintenance, because during the monsoon period paths get immediately covered with thick vegetation and shrubbery if left unattended even for 3/4 weeks. These are the basic difficulties in opening up and maintenance of new roads.

29. In the meantime, airfields have been completed where Dakotas and small aircraft like Otters can land and it is hoped that Otter service will be able to carry essential supplies like seeds to far-flung areas where local multiplication and its use can result in intensification of agricultural practices.

30. The working season for road construction is just about 5 months in a year from October to the end of February and coincides

with the peak period also for other works like reclamation, land development, minor irrigation, and other allied agricultural operations. There being paucity of population, the same manpower has to be utilised for separate works, which result in lack of concentrated effort and division of labour and time. The import of outside labour brings other complications and difficulties in its wake, including food supplies to be airlifted and the general undesirability of the presence of outsiders in large numbers.

31. The Committee, however, are strongly of the view that while programmes for the construction of new approach roads, mule tracks, and bridle paths be taken up vigorously, special efforts should be organised to maintain existing communications. Opening of new airfields in remote areas enabling landing of small planes may also be considered. The Committee's recommendations in this regard may be examined in the context of the prevailing political situation in the country's border areas.

Agriculture Research and Demonstration

32. As already stated in para 1.39 of Part I—General Report, the result of research conducted in 'billiard table' conditions cannot apply to areas with problematical climate and soil, and that the solution lies in conducting special research on suitable commodities under actual conditions prevailing in that area. The North-East Frontier Agency poses a variety of problems in the agronomical field. Local cultivators have a large number of crops which they have been growing for generations, and before they can be convinced or persuaded to replace them by improved varieties of other areas, evaluation of local varieties is essential. Similarly, the Administration is not quite certain about the behaviour of imported seeds and plants brought to the Agency which also have to be studied. The Committee, therefore, recommend that, in order to try out various varieties of seeds and plants, there should be a suitable number of research centres with an adequate staff of technical personnel.

33. The Committee are also of the opinion that demonstrations will be the most successful method for any extension programme in NEFA. Well planned demonstration units should be set up in Jhum areas where, without any suggestion of imposition, the Agriculture Department technicians should carry on scientific jhuming cultivation and produce successful and remunerative results. The tribal cultivator after seeing the success of such experiments will himself fall into step with new methods.

34. Similarly in areas where an appreciable amount of wet cultivation land is available, demonstration farms for paddy cultivation should be started. The same applies to orchards, cash crops and fisheries.

Lack of Technical Staff

35. In the past, various development schemes could not be implemented for want of technical staff and the Administration has had to surrender a large part of their yearly financial allotments. Life is hard in NEFA and at present not enough incentive is available to attract suitable technical personnel to join the Agency service.

It was brought to the notice of the Committee that shortage of technically qualified staff in the Agency has been the main set-back in achieving the targets of the Second Plan. Upon examination of Plan achievements, it was found that there had been shortfall in respect of the following schemes :—

1. Minor Irrigation
2. Supply of tools
3. Supply of work animals
4. Horticultural Development Centres
5. Livestock Village Upgrading Centres
6. Livestock Multiplication Centres
7. Poultry Development Centre
8. Opening of Veterinary Dispensaries.

36. As many as eight posts of Agriculture Inspectors and five of Veterinary Assistant Surgeons could not be filled by the Administration through lack of response from suitable technical personnel. The very purpose of development schemes is defeated when left un-implemented due to non-availability of technical staff. The Committee sensed a feeling of anxiety on this subject in the ranks of the Agency's administration, and, therefore, strongly recommend the implementation of the proposals already outlined by them in the Part I—General Report (Paras 1.36 and 1.37) with regard to postings, service conditions and selection of service personnel etc. in NEFA, and other such areas. The Committee also recommend that existing vacancies should be filled up immediately and staff put in position as otherwise progress of developmental schemes will receive a permanent set back.

37. Details of the Committee's recommendations with regard to Schemes for Agricultural development and research are mentioned later in this report.

Fisheries

38. Fish is an important dietary item for the people of NEFA. Fishing is also a ceremonial ritual both as a form of sport and tribal custom.

39. Originally, there was no plan provision for Pisciculture but in 1958-59, Rs. 16,000 were spent on the Pilot Projects and during the current financial year there is a provision of Rs. 47,500 under the normal budget and Rs. 19,000 under N.E.S. By the end of the current financial year, there will be two fishery products. These Fishery and Demonstration ponds will in due course serve as Multiplication Centres for distribution to other areas. The first consignment of 300 Mirror Carp fingerlings was flown to Ziro in 1959 with successful results. Similarly 2,000 Major Carp fingerlings were flown to Along from Dibrugarh. For low altitude areas, Major Carp will be imported from the neighbouring areas of Assam or Calcutta and the Administration has already arranged to buy necessary equipment like oxygen cylinders for long distance transport of fingerlings.

40. Some local practices of catching fish which result in a large scale and indiscriminate destruction of fish are being discouraged and as soon as some more trained staff is available, arrangements for development of fresh water fishery will also be undertaken.

41. At Passighat and Kabu a programme of constructing and stocking of tanks has also been reported as successful and one special feature of the scheme was that the people had contributed half of the excavation cost of ponds in the form of labour. Some ponds have also been constructed on 'self-help' basis at Reru, Mirmir and Mirem.

42. Surveys and collection of data reveal that derelict ponds and swamps in NEFA could be profitably utilised for Pisciculture. Experience so far gained proves that both Major Carps and Mirror Carps can be cultivated.

43. A nominee of the Administration is undergoing Fishery Training at Inland Fisheries Training Centre, Barrackpore, who will be completing the course by February, 1960, when he will be appointed as Fisheries Inspector. Two stipends have been sanctioned by the Administration for six months' training in Fishery at Assam Fishery Training Centre, Joysagar, for Junior Fishery Staff. It is proposed to have one Fishery Demonstrator for each Fishery Scheme sanctioned.

44. The creation of a post of Superintendent of Fisheries, NEFA, will be taken up next year.

45. The Committee recommend that (1) some high altitude varieties from other parts of the country may be tried in the upper regions of the Administration, (2) another officer for training in fisheries may be deputed as soon as the present nominee comes back, and such a rotation may be continued till the fisheries organisation in NEFA is sufficiently trained and (3) expeditious action may be taken to recruit a suitable and experienced officer for the post of Superintendent of Fisheries.

Land Reclamation

46. Unfortunately, taking an overall picture into consideration, there is not much land available which can easily be converted into permanent wet rice cultivation. The following difficulties are posed in the way of any large scale land development programmes :—

- (a) Difficult terrain and steep gradients make it difficult to open up new areas for large scale terracing.
- (b) In certain places even if a compact block of cultivable land is available, lack of manpower comes in the way of effective development. It is not advisable to bring cultivators to such areas by shifting populations from neighbouring villages as this will be too risky a venture and very likely unleash inter-tribal tensions. Though the nature of land ownership is individual, overall ownership vests in the village or clans as a whole. Any intrusion on such lands is not advisable for obvious reasons.
- (c) For any large scale development, adequate response from the people is very necessary. In NEFA, due to special

circumstances any scheme has to be launched carefully and the progress maintained at a very patient pace. At the same time it is encouraging to note that people are steadily responding to the extension of permanent cultivation, which has resulted in the development of 11,229 acres of permanent cultivation in First Five-Year Plan and 8,368 acres in the first three years of this plan period including Development Blocks.

47. Taking all these aspects into consideration, the Committee recommend that the land development schemes in hand may be implemented steadily with a view to achieving the targets already fixed. The Committee also recommend that as and when existing targets are achieved, further land development work may be taken in hand in the light of experience gained.

Minor Irrigation

48. The present schemes taken up by the Administration amount to Rs. 1.08 lakhs. The Committee, however, feel that the potentialities available in the area are quite good. Although the Committee are not in a position to recommend any sudden expansion of minor irrigation programmes, they recommend that a careful survey of all available resources may be made as early as possible. This will save time in the implementation of new schemes in future programmes by when it can be expected that the tribal cultivator will become more irrigation minded.

Jhum Cultivation

49. Jhum cultivation is the most widely followed method for agriculture. As already recommended by the Committee in Para 1.55 of their General Report, whatever material exists in the way of scientific research in Jhum Cultivation should be converted into definite plans for implementation in areas where Jhum Cultivation is practised.

50. There is, however, considerable room for improved practices in Jhum areas. The Committee endorse the views expressed by Shri M. S. Sivaraman, I.C.S., Adviser, Programme Administration, Planning Commission, in his note of April, 1957 (Appendix NEFA/'A'). It is recommended that the suggestions contained therein should be followed in right earnest.

51. The Committee also recommend that some Jhum land should be taken over by Government for scientific cultivation for demonstration purposes to tribal villagers without giving them the least impression of 'imposition' by Government. It is hoped that seeing better yields in adjoining Government demonstration units will persuade local cultivators to adopt better techniques.

52. There is considerable scope for the cultivation of Hybrid Maize. A beginning has already been made to cultivate hybrid maize and other crops like citrus, pine-apples and cashew. Forty-four maunds of hybrid maize seed was distributed in first three years of Second Five-Year Plan and it is proposed to distribute 60 mds.

in the fourth year and 80 mds. in the final Plan year. Cultivators are also encouraged to select quality seeds from their harvest for multiplication purposes and the arrangement has shown encouraging results in almost all areas of NEFA. Maize seed has also been imported from Shillong and is quite popular with local cultivators. 376 mds. of Shillong maize seed was distributed during the first three years of the Plan. 250 mds. will be distributed in the fourth year. The Committee would again emphasize the vast potentialities for the development of Hybrid Maize in this area. The distribution of seedlings, and seeds for cash crops is given below:—

	1956-57	1957-58	1958-59	Total
(a) Sugarcane Sets.	17,749	10,500	39,500	67,749
(b) Fruit Seedlings	3,525	2,693	11,561	17,779
(c) Potato (in mds.)	826	868	1,380	3,074

53. Tapioca of the local variety has already become popular in most of the Divisions and in the Tirap Frontier Division different varieties of tapioca are found which are considered suitable for other areas also. In Siang Frontier Division, Madras variety of tapioca was imported and has been locally multiplied with good results. Tapioca is used for feeding pigs and the local population also prepare beer from it. In other areas where tapioca is not available, substitute of tapioca like 'Yam' and 'Kochu' are found in abundance. Tapioca is, however, not considered a cash crop by the local cultivators.

54. The potato has become very popular throughout the Agency area and during the first three years of the plan 3,074 mds. of potato seeds were supplied to different Divisions. It is proposed to distribute 992 mds. during the fourth year. Sugarcane, mustard, chillies and ginger are also gaining ground in some areas.

55. As regards fruit seedlings 17,779 were distributed during the first three years and during the fourth year 28,804 have already been distributed and it is proposed to distribute 3,000 more before the close of financial year. Though it is desired to step up plantation of fruit seedlings in the interior, it is not possible to do so at this stage because sufficient quantity of seedlings is not readily available from the neighbouring State of Assam and transportation from other areas is difficult. Eight fruit nurseries have been organised and it is expected that within three years the Administration will be able to meet a part of their requirements.

56. The Forest Department of the Administration is also experimenting on rubber plantation, cashew-nut, coca, cardamom, black pepper, coffee, ruowlia serpentina and some other medicinal plants.

57. In the opinion of the Committee, NEFA is a very fertile area with considerable potentials not only for hybrid maize but for many cash crops like citrus, pine-apple, cashew and tapioca etc., as well. As such the Committee recommend that the scope of cultivation of the cash crops mentioned above should be enlarged as there is considerable scope for intensification. The plantation of such crops

should, therefore, be taken in hand. Apart from the difficulties experienced in obtaining the seedlings from Assam, considerable expenditure is involved on transportation. Keeping all this in view, the Committee recommend that horticultural centres should be established all over the Agency.

58. During the Second Plan, two Horticultural Centres, one in Kameng Frontier Division and another in Passighat, are being started and 7 nurseries are being converted into 5 acre Horticulture gardens. Such centres may be expanded all over the Agency during the period of the Third Five-Year Plan.

Extension of Potato Cultivation

59. The demand for seed potatoes in the Agency is steadily increasing. With a view to extending the cultivation of potatoes, it is recommended that potato seeds storages in high altitude should be opened to enable the Administration to obtain the seeds locally from the interior and save the avoidable transportation charges all the way from Shillong to the interior. This will also give the necessary incentive to the cultivators for growing potatoes both for seeds as well as table purposes. During the first three years of the Second Plan, the Administration had distributed 3,074 mds. of seed potato. The target for the remaining two years is 1,770 mds. which is hoped to be accomplished. During the fourth year, it is intended to start 3 storage godowns in the high altitude areas of the Agency followed up by 6 more during the last year of the Second Five Year Plan. Lifting of seed potatoes in the interior of the hills every year is a problem. The required quantities cannot always reach the destination in time for sowing.

60. Another way, therefore, to solve this problem is to start a seed producing farm mainly for potatoes which will help the Administration in meeting atleast a part of their requirements within the Division. The Committee recommend that a Model Scheme as appended (Appendix-NEFA/'B') should be started at Yazali, between Kimin and Ziro. After the experience is gathered in the production of seed potatoes at Yazali, the particular scheme should be followed in other Divisions as well.

61. The scheme would involve an estimated recurring expenditure of Rs. 0.84 lakh.

APPENDIX—NEFA 'A'

NOTE ON JHUMING IN N.E.F. AGENCY BY SHRI M. S. SIVARAMAN, I.C.S., ADVISER, PROGRAMME ADMINISTRATION, PLANNING COMMISSION (APRIL, 1957).

1. 99% of the total cultivated area is under a system of shifting cultivation locally known as jhuming which involves the cuttings of trees and plant growth on the steep hill slopes during the dry season, from November to March. The jhumed area is cropped for two seasons and then abandoned for some years to enable natural recuperation of soil fertility to take place and the same area is once again jhumed. Jhuming has been extended to most of the areas where it can be conveniently done and with every increase of population the jhuming cycle naturally tends to become shorter. This in turn effects the level of fertility and results in reduced crop yields and increasing food shortage. The practice involves considerable arduous work during the off-rainy season which also synchronises with the period of other developmental activities like construction of roads, bridle and mule paths, bridges, buildings, etc. Movements of officers for local inspection takes place largely in this season and this involves great demand for labour from the local population for carrying baggage and other incidental work. Paradoxically enough every increase in beneficial activity intended to raise the standard of living and span of life in effect affects agricultural production by drawing workers away and thereby depresses the existing low standards.

2. It is, therefore, no exaggeration to say that, in N.E.F.A., life and developmental activities revolve round 'jhuming' for which a practical solution has to be found if food production is to go up without detriment to local development. If the burden of work involved in cutting trees can be lightened and the fertility of the jhumed area improved we should have found the key to the problem of development of backward areas of this type which are inaccessible and will continue to be inaccessible for many years to come.

3. As jhuming overshadows every other activity I shall deal at some length with it and with my suggestion for tackling the problem of jhuming in a practical and inexpensive way.

4. Jhuming is at once a method of agriculture and a way of tribal life and various communal rites are commonly observed to ensure its success. For instance, as many as ten different rites Rikti, Kombi, Mopun Binyat, Amrat Rannam, Eruk Eri, Pipak, Solung, Etor, are observed by the Miniyongs of Siang Division, in connection with jhuming. Food production in N.E.F. Agency depends almost entirely on cultivation of hill slopes and as these slopes are very steep—Often 1 in 2 or 1 in 3—there is no other alternative to jhuming in N.E.F. Agency except near the banks of the rivers. It will therefore be wrong to decry jhuming while popularising terrace cultivation in the very limited places where this can be done.

5. Apart from this, it is a mistake to assume that jhuming in itself is unscientific land use. Actually it is a practical approach

to certain inherent difficulties in preparing a proper seed bed on steep slopes where any disturbance of the surface by hoeing or ploughing will result in washing away of the fertile top soil. The tribal people therefore take care not to plough or disturb the soil before sowing. The destruction of weeds and improvement of tilth necessary for a proper seed bed are achieved with the help of fire. Seeds are dibbled ahead on the onset of the monsoon so that these may not be washed away and this produces a light cover of protective vegetation which reduces erosion of the soil when the heavy rains begin. In most of the interior areas where communication is not developed and no sufficient land suitable for terracing is available, jhuming alone can be done for the present and as such every effort should be made to improve the fertility of the jhumed land.

6. At present the restoration of soil fertility depends mainly on the decay of weeds, grasses and leaves and this level of fertility is greatly reduced in two years of cropping. In order to hasten the restoration of fertility, all weeds and grasses in such areas should be suppressed by leguminous cover crops which fix nitrogen in the soil and the non-descript trees are not all leguminous should be replaced by leguminous shrubs which can be cut or destroyed easily.

7. The above objects can be completely achieved by growing in the third year when the jhumed land is left fallow, perennial red gram (Arhar) which may be dibbled by April, 12 inches apart along with contours of slopes and in rows four feet apart. In every acre about one to two pounds of seeds of Calapagonium Mucunoides, a very fast growing leguminous creeper may be sown when the Arhar is about 3 to 4 weeks old. Calapagonium forms a thick matted growth within two months and prevents soil erosion completely and suppresses weeds and grasses. In 1952-53 I have successfully introduced Calapagonium for putting down weeds and grasses in cocoanut, pepper and citrus gardens in areas of heavy rainfall like Malabar, South Kanara and the agency portions of Vizagapatnam District.

8. The Arhar will provide extra food for the people, fix nitrogen in the soil and also improve soil fertility by leaf-fall. Calapagonium dries up in December and January and can be therefore destroyed by fire before sowing other crops. Left to itself the seeds get self-sown and the plants fix very large quantities of nitrogen in the soil. A variation of this method will be to grow perennial Arhar and long duration cowpeas in the Kharif season and a pea or gram crops in the rabi season or perennial leguminous shrubs like Tephrosia Candida or Crotalaria Anagyroides which are found to grow very well in N.E.F. Agency and Assam. All the legumes mentioned above will grow upto 4,000 feet and will suit the bulk of the jhumed lands. For areas above this elevation, the choice may be made from local legumes.

9. Though *prima facie* these suggestions can be implemented even without conducting preliminary experiments, it is desirable that the Agricultural Department should carry out such experiments in selected jhumed areas so that the tribals are actually convinced of the merits of the recommendations. Yearly soil analysis from the first year of jhuming will throw light on the extent of decline in soil fertility by cereal cropping and the improvement that takes

place from growing legumes and this will help to fix the period of jhum cycle necessary for resuming cereal cultivation.

10. While experimenting to determine the minimum duration for a jhum cycle, it should be possible to combine observations on the effect of growing legumes after complete destruction of the trees in a portion of the jhumed area by using an arsenical preparation like the Atlas tree killer. This is a simple method of killing a tree and all that is required to ring bark a narrow strip and apply the chemical to the Cambium with a brush and the tree including the roots will be killed in due course. When trees are destroyed in this manner every care should be taken to see that those held sacred by the tribals are not interfered with. As and when the tribals are convinced of the efficacy of the method of restoring soil fertility by growing legumes without waiting for years, it will not be difficult to restrict the use of the chemical to existing jhumed lands with a view to prevent large scale destruction of trees in other areas. Ultimately the shifting of cultivation will stop and the jhumed land will be cultivated from year to year with cereal followed by legumes or a mixed crop of cereal and pulses. There is no doubt some loss of fertility by soil erosion when weeding is done; but this may be offset by incorporating into the soil composts or leaves of legumes at the time of weeding. When communications are more fully developed and marketing facilities are available, it may be possible to grow on the jhumed land valuable perennial crops like pepper, long pepper, rubber etc., and obtain food from outside in exchange. Such crops will help to reduce erosion but the possibilities of growing these crops will have to be shown in the Government farms.

11. The suggestions which I have made, if followed, will help to :—

- (1) improve fertility of the jhumed land and produce more food;
- (2) shorten the jhum cycle and thereby enable larger areas to be cultivated in a year;
- (3) help to grow a pulse crop of arhar cowpeas etc., while the land is allowed to recuperate;
- (4) minimise soil erosion;
- (5) eliminate the cutting of trees and thereby enable the raising of a rabi crop and release more labour for other development activities;

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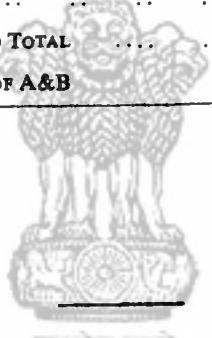
and

- (6) convert the jhumed lands into areas of stabilised, permanent cultivation.

APPENDIX—NEFA/'B
Total Area-50 Acres

NON-RECURRING		1st yr.	2nd yr.	3rd.yr.
		15 Acres	15 Acres	20 Acres
A. General				
1. Land				Free
2. Reclamation & Dev. @ Rs. 250 per acre including felling of trees and removal of stumps ..		3,750	3,750	5,000
3. Irrigation				
(a) Provision of Irrigation by harnessing the nearby stream and digging of the field channels-medium Irrigation project	(i)	500	1,500	2,000
	(ii)	1,500		
4. Animal Power @ Rs. 550 per pair		1,650	1,100	550
5. Tools & Implements		1,000	500	500
6. Furniture L.S.		500	100	100
B. Buildings :				
1. One Quarter for Farm Manager Type IV HT as per P.W.D. specification				
2. 3 Quarters for 2 fieldmen and one LDA-cum-Storekeeper Type III HT as per P.W.D. specifications				
3. A Barrack for 10 Malies—2 Units of 5 each Type I HT as per P.W.D. specifications				
4. Bullock shed for 6 pairs as per P.W.D. specifications HT				
5. Labour shed for 25 Nos.—Barrack Type—HT				
6. Storage Godown with Racks with the expanded material-cum-implement shed (30' x 20' & 16' x 12') HT as per P.W.D. specifications				
7. Farm Manager's Office (16' x 12') HT as per P.W.D. specifications.				
8. I Grade IV-Type I-HT as per P.W.D. specification.				
Estimate of the Expenditure not supplied by NEFA Administration.				
Recurring :				
A. Establishment :				
(a) Pay 1. Pay of Farm Manager-1 ..		..
& 2. Pay of Fieldmen 2 ..		..
SP 3. Pay of LDA- cum Storekeeper-1		..		
4. Pay of Grade IV- 1 ..		..
(b) Allowances & Honoraria		1,022.94	2,045.88	2,087.88
TOTAL	.. ..	5,300.94	10,601.88	10,872.88

NON-RECURRING	1st yr.	2nd yr.	3rd yr.
	15 Acres	15 Acres	20 Acres
B. Contingencies (R.E.)			
1. Wages of Contingency Mali @ Rs. 72.50 nP. (i) 1959-60-4 Nos. 1960-61-4 Nos. 1961-62—2 Nos.	1,740	6,960	8,700
2. Cultivation charges for the Farm @ Rs. 150 per acre for single cropping and Rs. 50 per acre extra for 50% area under double cropping ..	2,625	5,250	8,750
3. Feeds and Feedings @ Rs. 150 per animal per day-schedule 3 srs. per animal	1,650	5,100	6,100
4. Seeds (Potatoes and other Misc. seeds)	4,000	250	250
5. Manures & Fertilizers	500	100	1,250
6. Plant Protection equipments and materials ..	1,000	500	500
7. Unforeseen charges	500	500	500
GRAND TOTAL	12,015	19,560	26,050
GRAND TOTAL OF A&B	Rs. 84,398		



INACCESSIBLE AREAS COMMITTEE REPORT

PART II

3. RATNAGIRI DISTRICT (BOMBAY STATE) (NOW MAHARASHTRA)



DEPARTMENT OF AGRICULTURE
RATNAGIRI DISTRICT—(BOMBAY STATE)

General observations

The Ratnagiri District is a part of the Konkan strip running north to south on the Western coast of India, formed by a narrow belt of uneven lands lying between the Arabian sea on the west and the Sahyadri Hills on the east. The District is about 300 miles in length and has a maximum width of about 45 miles only. The Bankot creek in the north separates this district from the Kolaba District and the Terekhol creek in the South separates it from Goa. The population has increased from 4.63 lakhs according to the census returns of 1820 to 17.12 lakhs in 1951, out of which 7.70 lakhs are males and 9.42 lakhs are females. The population is overwhelmingly rural: 16.1 lakhs of people living in 1,553 villages as against 1.01 lakhs residing in the urban areas.

2. Of the total area, an area of about 7.5 lakh acres is cultivable. Out of this, about 3.05 lakhs acres are under paddy, while the balance of the cultivable area accounts for Nagli and other 'warkas' crops and horticulture. About 10,000 acres are cultivable waste lands including inferior 'warkas' and slope lands, and 46,892 acres constitute forest area. The average rainfall in the district is 125 inches between June and October. The fertile land of the district is mostly near the tidal rivers in the south. Over the rest of the district, the soil is poor. The rocky coastline is intersected by numerous creeks and navigable rivers. The climate is moist but on the whole healthy. In short, the soil and climate of this district are more suitable to horticulture than to agriculture.

3. Due to dense population and inadequate food production because of poor soil potential, the district has to depend for supply of food for about eight months in a year on the neighbouring districts of Belgaum, Kolhapur and Kolaba, in addition to the supplies received *via* Bombay by sea.

4. The District has posed a serious administrative problem to the Bombay Government ever since the earlier days of British rule. Its problems were permitted to deteriorate to a state almost 'beyond repair'. Forces of nature and mankind have successfully conspired and acted jointly for the last two centuries, in reducing the countryside to a state of barren wilderness; leaving in it the very minimum possible potentiality for food production. The inaccessibility of this area, though pronounced, ranks second to the local problem of depleted production potential through prolonged soil erosion. These conditions have resulted in special conditions like the large scale exodus of (seven lakhs of) Ratnagiri's population to Bombay for urban employment in preference to cultivation.

5. The eroded condition of the soil, and the fact that in most parts hardly a few inches of top soil remains for cultivation, the most important item on the proposed programme will have to be large scale soil conservation and afforestation. The steep nature

of the local country-side results in the soil wealth of the district being washed into the sea. Large scale fellings and indiscriminate cultivation on hill sides over many years have resulted in the soil being devastated by extreme erosion. With this tragic picture in view, it is not surprising in the least that until Independence Ratnagiri received step-motherly treatment at the hands of the Government then in power. The attitude of the said Government is quite clear by the fact that Ratnagiri was always selected for the location of problematical and derogatory institutions. The same attitude seems to have been applied to the posting of staff which was composed mostly of mediocre disgruntled elements with no heart in their work. The situation has now improved but the Committee would seriously recommend the proposals already outlined by it in its general report (Para 1.36 & 1.37) with regard to postings, service conditions and selection of service personnel in Ratnagiri area.

6. On hill tops a programme of extensive plantation of cashew and other cash crops is being recommended. In lands immediately below the hill tops, a 'bench' terracing programme has been found to be the best proposition to enable the cultivation of improved varieties of millets and cash crops other than cashew. In lower lands the terracing should be perfect enough to enable paddy cultivation and thereby make intensive paddy cultivation possible. Such a Plan has been made with due regard to practical conditions keeping in mind special local conditions right from the research to the cultivation stages. Other cash crops which are being included in the programme are alphonso mangoes, coconuts and Arecanut etc. In comparatively richer valleys, where presence of spring water enables double cropping, an intensive drive of J.P.C. paddy cultivation is being recommended for adoption.

7. There is not much scope left for reclamation, inspite of the fact that the district has only 8.68 lakhs acres under cultivation out of a total area of 31.66 lakh acres. It is, however, possible to reclaim some more 'Khar' land which can be desalined, and made fit for paddy cultivation. In the opinion of the Committee, such a programme, however, will have to be entirely implemented by Government departmentally, and effective legislation enforced to make it possible for the lands to be taken up, reclaimed and returned to the cultivator for cultivation. Charges for reclamation, which to some extent can be subsidised may subsequently be recovered in long-termed easy instalments.

8. In certain areas although earthen soil is only two to four inches deep, the layer immediately below is soft rock which if pulverised mechanically, is said to have the chemical potential to grow crops. A survey of such areas is recommended alongwith an examination of the scientific aspect of this proposal so that the economics of a large scale mechanised reclamation scheme may be chalked out. Meanwhile a small 'pilot' scheme is being recommended.

9. As regards reducing Ratnagiri District's inaccessibility, the Committee recommend that the existing steamer arrangements from Bombay should not be permitted to come to an end. It has been represented to the Committee that the existing rates are unreasonably high, and that steps should be taken to rescue the fate of

the local steamer service from the uncertainty which has been permitted to develop with regard to its continuation.

10. The Goa-Bombay road already under construction, will be the most important main highway of this area. It is necessary that the existing programme of its completion be speeded up as a special case. With regard to smaller local roads which will link the proposed railway and Bombay-Goa road both with Eastern interior and the western coastal areas, a phased programme has to be evolved, fixing priorities.

11. The extent of navigable penetration of creeks is being reduced every year by silting. A programme of de-silting will be necessary so that in such areas the original extent of accessibility is restored.

12. Prolonged backward conditions have deprived the district of suitable marketing facilities for even its limited production. Therefore, while embarking upon a programme for increased production, a parallel programme of increased and better marketing facilities is essential.

13. As regards the utilisation of the mineral resources of the District, the State Government has declared its intention to eventually utilise a certain amount of power from Koyna Project, in favour of this area. An industrial survey of an order which can be developed by the amount of energy proposed to be made available for Ratnagiri from the Koyna Project would be most useful.

14. A special development programme for fisheries, for which this area has potentialities is also recommended, and side by side, the feasibility may be examined for setting up a solar dehydration unit for fish, so that it may be possible to transport dehydrated fish into inaccessible parts in the interior of the district where fish is consumed with relish, but where it cannot be transported during the monsoon period. Increased consumption of fish will, to some very small extent, result in decreasing the consumption of food-grains.

15. The inhabitants of this District provide men to the Defence services, skilled labour factories in Bombay, Police Services, and domestic servants in urban Bombay in large numbers resulting in the district receiving large sums of money from its population residing outside. This regular supplementary income which is said to amount to Rs. 35 lakhs a month in the way of postal remittance alone, though a welcome relief, saps the will of the left behinders, mostly women, children or elders to put in maximum effort. The exodus of population, therefore, which was a direct result of 'not enough' being available at home, is now also indirectly causing an indefinite extension of the conditions which led to it, and a vicious circle has come into existence.

16. The programme of development of cash crops and setting up of small-scale industries in mining, fisheries and canning of fruits is, therefore, of fundamental importance as ready profits will inject an incentive for the population to try and develop their own resources at home.

Existing Food Production Programmes

17. The geographical area of this district is 31.65 lakh acres and the net area sown is 8.53 lakh acres. The general State-wide schemes for food production such as improved seeds, wells Schemes, Seed Farms Scheme etc. are also in execution in the District.

18. Keeping in view the local conditions the food production schemes are generally working satisfactorily. So far as wells scheme, pumping sets scheme etc. are concerned, there is reported to be good scope for expansion. Besides due to ingress of sea-water the agricultural lands along the coast have been reduced completely or made partially unfit for cultivation with the result that an area of only about 7.5 lakhs acres is cultivable. The culturable wastes in the District are about 7 lakh acres. Some reclamation works have been taken up by the Khar Land Development Board.

Land Tenure

19. The predominant land tenure of the Ratnagiri District was the Khoti tenure. The origin of the tenure was in the rugged nature of the tract and the difficulty of collecting land revenue in the area. Owing to these factors, a powerful influential middle man who could settle himself in the village, organise cultivation of lands, command confidence of the ryots and be responsible to Government for revenue was badly needed. This situation created a middle man called the Khot between the Government and the actual tillers of the land. The tenure originated in the time of Yusuf Adil Shah of Bijapur (1489-1510). Subsequently, some Khots were created by Mughals, Marathas and Peshwas. The Khots were given Senads in respect of villages given to them for revenue management. They were treated as hereditary farmers of revenue with certain defined rights over their subordinate ryots.

20. In order to settle the rights and responsibilities of the khots, the Khoti Commission was appointed in 1874. On the basis of its recommendations, the Khoti Settlement Act, 1880 was enacted. The Act merely defined the respective rights and did not confer any new rights which were not in existence. The Khot held the village on payment to Government of Jama—the aggregate assessment of the village and enjoyed Khoti faida. His rights to Khoti lands were hereditable and transferable. He had also reversionary rights in respect of the Khoti nisbat lands forfeited or lapsed for failure of heirs and resigned by permanent tenants. He was entitled to Khoti faida from the permanent tenants and quasi-deharekaris. He had full rights in the Khoti Khasgi land.

21. The Khoti Khasgi land was the private property of the khots, but the khoti nisbat was the joint property of the khots. The khoti tenure resulted in the oppression of the cultivators. The evils were inherent in management of the village themselves. In order to remove the intermediary khots from the village administration, the Bombay Khoti Abolition Act, 1949, was enacted and enforced with effect from 15th May 1950. The Act abolished the khoti tenures with all its incidents. In the case of khoti khasgi lands, the khot was recognised as an occupant and the de-harekaris or quasi-deharekaris and the permanent tenants were settled as occupants

in respect of the lands in their possession. In the case of khoti nisbat land, the tenants in possession were recognised as occupants. The khots were compensated for the loss of the khoti faida.

22. Besides the khoti tenure, there were certain villages and lands in inam tenure. These tenures have also been abolished by enacting special legislation by the Bombay State.

23. As a result of the abolition of khoti and other special land tenures, the tenure that has emerged is ryotwari throughout the district. The ryotwari tenure is regulated under the Bombay Land Revenue Code, 1879.

Fertilisers and Seed Multiplication

24. As the soil is mostly rugged, rocky laterite and inferior and as the only important crop is paddy and, in view of the fact that most of the cultivators are very poor, the demand for supply of fertilisers has been very slow. It is believed that 50% of the areas suitable for manuring are fertilised with fishmeal and other mixtures.

25. There is no scheme for supply of improved seed to the cultivators at concessional prices. The nucleus seed of recommended varieties is produced at the Research Station. This seed is then multiplied on the Seed Farms and supplied to the Registered growers or to the Farmers Unions for further multiplication and later on supplied to their neighbouring cultivators.

26. The estimated requirement of various types of foodgrains is 2.82 lakh tons. Fifty percent of this would be rice and the balance will be wheat, jowar and other foodgrains. The requirements of foodgrains to the tune of 74,000 tons are met from outside incurring transport cost of Rs. 21 per ton and the rest from internal sources. The imports of 74,000 tons of foodgrains involve an expenditure of Rs. 363 lakhs.

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Communications

27. As stated in paras 1.21 and 1.22 of the General Report, the lot of any inaccessible area cannot be improved without adequate facilities of accessibility by road, rail or sea and internal communications by bullock cart, tracks or footpaths. In the case of Ratnagiri, this is all the more important as horticulture, which is the most important occupation of the people, needs a special coordinated programme of communications. Such a programme will enable the cultivator to bring his produce to the marketing and processing centres. The Government of India are already meeting the full cost of the development of the West Coast road extending from Panvel to Chelissery to the standard of a fully bridged road with one-lane asphalted carriageway. This road will provide uninterrupted communication facilities along the West Coast and will considerably facilitate the economic development of the area. Nearly 200 miles of this road lies in the Ratnagiri district and the Government of India have sanctioned estimates of a total cost of about Rs. 75 lakhs for the improvement of the road passing through Ratnagiri district.

28. The State Government have represented that the development of this area is seriously retarded on account of lack of railway

communication especially during the monsoon period when the steamer service to Ratnagiri is suspended and, people can travel only by State transport, or follow a circuitous route *via* Kolhapur or Belgaum.

29. The Committee have examined this question very carefully in consultation with the Railway Board. It is found that preliminary engineering and traffic surveys for the Diva—Dasgaon route were carried out in 1954. Konkan area lacks rail transport facilities and the principal movement of passenger traffic to and from Bombay is by means of buses or by the bus-cum-steamer route. Labour in very large numbers required for the Bombay industries, is drawn from this area. The road route *via* Mumbra is about 30 miles longer and during the summer months people take to the steamer route *via* Dharamtar. Of late, in spite of the road and steamer routes, there have been demands from the public of the area and from Bombay Government for the provision of rail facilities in this area to relieve congestion in greater Bombay, Thana and Kalyan region, and to open out fresh areas where Industries Department of the Bombay Government consider that Kharpara area in Pathalganga valley as a suitable site where textile, rayon, chemical and engineering industries can be established. There is plenty of water and abundance of forest wealth in these areas, and also mineral wealth to some extent. The Koyna Project is expected to generate electricity in plenty and the Bombay Government feel that it is only the lack of rail transport facilities that is delaying rapid industrialisation of this area.

30. With the above background in view, engineering and traffic surveys were conducted for a rail route from Diva to Dasgaon—a distance of 94 miles. There are a number of rivers to be crossed and the terrain is difficult. The traffic potential as assessed during the 1954-55 survey gave a net return of 0.3% on a capital investment of about Rs. 6 crores. The cost of construction has since then gone up and is expected to be of the order of Rs. 11 crores.

31. Apart from the remunerative aspect, the need for providing rail facilities in this comparatively undeveloped region was recognised and as a first step preliminary action on the Diva-Panvel portion of the Diva-Dasgaon alignment, with extension up to Uran, is being taken so that the Diva-Panvel length can be completed in the Third Plan. Diva to Panvel is 16 miles and Panvel to Uran about 14 miles. Uran is developing industrially and a big soda ash plant is planned to be located there. There is also scope for further development of salt industry at Uran. In addition, this area is bound to develop as a suburb of Bombay with the provision of these rail transport facilities.

32. As regards the portion beyond Panvel to Dasgaon, the length will be 78 miles and cost about Rs. 9 crores. The proposed rail route will be running almost parallel to the Panvel-Mahad Road and the important areas served will be Kharpara, Pen, Negothana, Roha, Kolad, Mangaon and Goregaon. The area is interspersed with hills and valleys, and cultivation is restricted to valleys the hills being covered with forests. Pathalganga, Amba and Kundlika rivers have to be crossed and, therefore, construction will be difficult and expensive.

33. We would strongly recommend that notwithstanding the difficulties of terrain and rivers to be bridged, due priority should be given in the Third Five-Year Plan to the construction of the railway up to Dasgaon as originally proposed, since this will go a long way to develop this region.

34. It was brought to the notice of the Committee that only sea transport facility at present obtaining from Bombay is threatened with discontinuance owing to the alleged unremunerative character of the service. Prior to 1950, three small Indian Shipping Companies were operating cargo and passenger services on the Konkan Coast. The persistent 'rate-war' among the three companies resulted, however, in disastrous losses to all of them. In 1939, the Scindia Steam Navigation Company had secured the management of the Bombay Steam Navigation Company which was till then managed by the British firm of Messrs Killick Nixon & Co. The Scindias were able to bring about a complete unification of the three different companies about the end of 1950 by the merger of the Indian Co-operative and the Ratnagar Steam with the Bombay Steam Navigation Company. Later, in 1953, the Scindias effected a further re-organisation and constituted the Bombay Steam Navigation Company (1953) Ltd., as a subsidiary of the Scindias and since then, this Bombay Steam Navigation (1953) Company has been operating the coastal services along the Konkan Coast, catering to an annual traffic of 8 to 8½ lakhs of passengers on the Konkan coast and three lakhs passengers in the Harbour of Bombay. In 1957, the Company represented to Government that they could not continue in the trade unless Government give them assistance in the following three modes simultaneously :—

- (a) enforce a rise in passenger fares such as may be found feasible if at all, to make good a part of the current yearly losses,
- (b) subsidise the Company to make good the balance of the current yearly losses, and
- (c) give the Company an interest-free loan up to rupees 3.20 crores for replacement of vessels.

35. In the meanwhile the Director-General of Shipping, at a meeting held in Bombay in September, 1957, discussed the entire question with the representatives of the Shipping Company. As a result of the discussions the Company agreed to renounce its demand for an interest-free loan of Rs. 3.20 crores, and agreed to maintain the service for a further period of 8 years on the following main conditions :—

- (i) Government should agree to release the necessary foreign exchange immediately for the replacement of the boilers of their overaged vessels. The total estimated cost of replacement of the boilers would be about Rs. 15 lakhs. This will enable the Company to carry on their service for a further period of 8 years.
- (ii) At the end of three years (from September, 1957), the question of replacement of vessels by placing orders for new ships will be considered.

(iii) Government should agree to an increase in the passenger fare by 12 to 15 per cent with effect from September, 1958 and if the Bombay Government are not agreeable to an increase, they should be asked to subsidise the yearly losses as shown in the balance sheet.

(iv) The Company should be allowed to rationalise the services.

36. The Government of Bombay were informed of this development and their views were invited. They were also told that these conditions were inescapable if the service was to continue. The Government of India on their part also agreed to grant the requisite import licence with release of foreign exchange of Rs. 15 lakhs in favour of the Company for import of boilers. The Government of Bombay did not, however, agree to the conditions laid down by the Company. Being a Commercial concern, the Company could not allow the deadlock to continue. They accordingly sent a note to the Government of India that they would be winding up these services in June, 1959, if no solution to the question of covering their losses could be found by that time. In order to find a permanent solution to this problem, the Government of India have now decided, with the concurrence of the State Government as well as the Shipping Company, to appoint a high-powered committee to go into the entire question. The Company have also agreed to maintain the service till the Committee have been appointed and have submitted their report. Accordingly, the Government of India appointed a Committee under the Chairmanship of Shri P. S. Rau, I.C.S. (Retd.).

37. The Committee sensed a feeling of anxiety both on the part of the people of the area and the State Government as to the fate of this vital link of communication with the rest of the Country. We would strongly recommend that a permanent solution to this problem should be found so that the people of the area are not put to any inconvenience on this account.

Desilting of Creeks

38. The State Government fully realised the need for dredging the navigational creeks of the various ports situated in Districts of Konkan area. Most of the minor ports of the old Bombay State are located on the banks of rivers or creeks. The depth of water at those places is getting steadily reduced due to continuous siltation with sand and mud brought down by the rivers and in most cases enormous bars have been formed at the entrance of the navigational channel.

39. Desiltation has, therefore, to be given due priority for making these channels safe for navigation. The State Government have decided to purchase dredgers and dredging equipment costing Rs. 30.50 lakhs for carrying out the dredging operations inside the creeks and rivers. Orders for the purchase of one dredger costing Rs. 2.27 lakhs have already been placed. A drag line excavator has already been purchased for desilting purposes.

40. The Committee are satisfied with the arrangements made and strongly feel that when put into operation, it will go a long way in making the minor ports suitable for navigation.

41. The Committee recommends that as a special case the State Government should be extended all possible cooperation and assistance by the Centre in importing the essential machinery for this programme.

Financial Implications

42. The Committee find it difficult to form a fair estimate of what a special programme is likely to cost for the development of this District. As mentioned in the General Report of the Committee (Paras 1.13 to 1.15) the Committee have already expressed their firm opinion that within the resources of normal planning at State level, districts like Ratnagiri can never hope to reach a state of comparative development with more fortunate and better developed areas. The problems of areas like Ratnagiri will necessarily have to be deemed as National and special provisions therefor made in addition to existing plan schemes. Since the size of the Third Plan is still in a very tentative stage, the Committee are only in a position to make equally tentative estimates. The size of the Second Five-Year Plan of Bombay State is Rs. 35,028.39 lakhs which calculated in a very *ad-hoc* manner comes to Rs. 73 per capita. Ratnagiri's share can thus be calculated as Rs. 1,242.45 lakhs. Presuming that the Third Plan will be approximately 2½ times the size of the Second Plan, Ratnagiri's share will be Rs. 3,106.13 lakhs. Keeping in consideration its recommendations to allot special programmes for inaccessible areas, the Committee recommend that for Ratnagiri in addition to the normal 2½ times increase from the Second to the Third Plan, schemes worth an extra 50% of the size of the Third Plan should be sanctioned. The Committee are giving a list of schemes of various departments along with priorities and rough estimates of the financial implications involved. The total proposed outlay amounts to Rs. 3,339.68 lakhs which can be phased over a period of time according to the availability of funds. (Appendix—Ratnagiri/A).

Central Pattern of Assistance

43. As regards the pattern of central assistance to be given for schemes in this District, the Committee would like to emphasise that the normal pattern applicable to the rest of the country should be relaxed. After taking into account all the circumstances prevailing in the various inaccessible areas, the Committee have come to the conclusion, and accordingly recommend that the pattern of central assistance should be on the following basis:—

Pilot schemes	..	..	100% Subsidy
Other schemes	..	..	66% Subsidy to be shared equally between the Centre and the State.

44. At present well schemes are subsidised only in the case of those pertaining to foodgrain production. In inaccessible and economically under-developed areas, horticulture plays an important economic part, and therefore the Committee recommend that schemes for sinking wells for irrigation of fruit orchards and for other horticulture purposes should also be made eligible for subsidy at 33%. The Committee would also recommend that on similar grounds schemes for supply of engines and pumps should be made

eligible for subsidy at 66% to be shared equally between the Centre and State Governments.

Agriculture Development and Research

45. The Committee's recommendations in respect of various schemes to be taken up for the Agriculture and allied development of the Ratnagiri District are given below :—

1. Keeping in view the fact that the existing economic distress of this area is largely due to an utter depletion of soil, the most important and basic item of agricultural development should be conservation of soil and moisture, to be attained as early as possible.
2. Where presence of spring water enables wet cultivation, an intensive drive of Japanese method of Paddy cultivation may be organised.
3. There should be an extensive survey for land utilisation before the above programmes are launched and implementation should be a coordinated effort of all the Departments concerned.

Soil Conservation

46. The only soil conservation measures which can be practised in the heavy rainfall areas of the Ratnagiri district are—

1. Trenching;
2. Contour bunding; and
3. Bench terracing of hill slopes.

47. The first item should be incorporated with Cashewnut development scheme and the other items should be incorporated with the scheme of increasing the area under Nagli cultivation and Paddy cultivation.

Scheme for increasing area under the Japanese Method of Paddy Cultivation

48. This scheme is already undertaken by the State Agriculture Department. All available area is proposed to be covered under the departmental scheme. No separate scheme is, therefore, recommended.

49. It is estimated that the area available for bringing under Japanese method of Paddy cultivation is about 50,000 acres. Out of this, 20,000 acres will be covered by the end of Second Five-Year Plan period and the rest will be covered during the Third Five-Year Plan period.

Scheme for increasing the yield of Paddy and Nagli by supplying Improved Seeds

50. This scheme is also undertaken by the State Agriculture Department and the programme has already been prepared to cover the available area under improved seeds by increasing the number of Seed Farms. No separate scheme is, therefore, proposed.

51. At present the supply of improved seed of paddy is just sufficient to cover the needs of the cultivators who adopt the Japanese system of cultivation. It is expected that by the end of Third Five-Year Plan period the Department will be able to supply improved seed of Paddy for about 2 lakh acres and thereafter will meet the full requirements of the district. So far as Nagli is concerned, the State Agriculture Department is reported to be able to supply improved seed to cover only 17,000 acres by the end of Second Five-Year Plan period. It is targetted to supply improved seed to all the Nagli area, viz., 1.48 lakh acres by the end of Third Five-Year Plan period.

Scheme for increasing the yield of Paddy and Nagli by use of fertilisers

52. The State Agriculture Department have stated that as chemical fertilisers are not available in adequate quantity, it is not possible to execute such a scheme. The fertilisers available now are just sufficient to meet the requirements of cultivators growing Paddy under Japanese method.

Pilot scheme for cutting up of laterite rock by mechanical means for cultivation

53. It was proposed by the State Government that 10,000 acres of rocky plateaus may be taken under this scheme. The laterite rocky surface will be cut and broken up so as to pulverise it as much as possible by tractor drawn implements. According to levels suitable plots will be enclosed by bunds to form fields. We, however, feel that as the scheme will necessitate the import of a large number of Heavy tractors (D-8), in view of import difficulties, to begin with only two units should be imported for carrying out a pilot scheme and the programme expanded in the light of the experience gained. It may be noted that in such areas some enterprising cultivators have successfully reclaimed small fields manually with success.

Scheme for converting hill slopes into Paddy fields by terracing

54. There is an area of 4.5 lakhs under other fallows and also an area of 7.1 lakhs under cultivable waste. Out of this total area of 11.6 lakhs, it is expected that 3 lakh acres will be available on the lower slopes of hills for converting into Paddy lands by terracing. It is estimated that each acre of terraced land will cost approximately Rs. 750. Keeping in view the special local conditions, a substantial subsidy will be necessary. It is, however, recommended that, to start with, one lakh acres may be taken up for conversion involving an outlay of Rs. 750.00 lakh.

55. In addition, the following schemes are also recommended :—

1. Scheme for converting hill slopes into Nagli fields by partial terracing.
2. Scheme for plugging small nalas for diverting water for irrigation of Paddy.
3. Scheme for sinking wells for irrigation of fruit orchards.
4. Scheme for supply of engine pumps or motor pumps.

5. Scheme for increasing the area under cashewnut.
6. Scheme for increasing the area under mango.
7. Scheme for increasing the area under cocoanut.
8. Scheme for increasing the area under arecanut.
9. Purchase of bulldozers, necessary implements and establishment of a workshop.
10. Staff and purchase of tools and implements.

Scheme for converting hill slopes into Nagli fields by partial terracing

56. Most of the lands on steep slopes which are at present under shifting cultivation for growing Nagli, can be levelled out with a view to raising Nagli crops more frequently. It is estimated that about one lakh of acres of land can be partially terraced at a cost of Rs. 500 per acre. The total cost for the same will amount to Rs. 500.00 lakh.

Scheme for plugging small Nalas for diverting water for irrigation of Paddy fields

57. Wherever possible, it is intended to divert water from Nalas to Paddy fields at the fag end of the season, with a view to assuring the Kharif paddy crop and also to take a double crop if possible. The plugging of such Nalas will be done in pucca masonry with suitable arrangements for taking water into the fields. It is estimated that an area of 10,000 acres can thus be protected under assured supply of water, so that crop production can be assured at considerable higher rate of production. The cost of Nala Plugging at the rate of Rs. 200 per acre would be about Rs. 20 lakhs.

Scheme for sinking wells for irrigation of fruit orchards

58. There are already 11,798 wells, mostly for irrigating fruit crops in orchards. The total area under irrigation is 12,000 acres. Thus roughly one well is irrigating one acre of fruit crops. As it is proposed to bring about 3,000 additional acres under cocoanut and arecanut plantation, approximately 3,000 new wells will be required to be constructed at a cost of Rs. 3,000 each. The total amount required will be Rs. 90 lakhs.

Scheme for supply of engines and motor pumps

59. It will be possible to instal about 1,500 small H.P. engine pumps and 1,500 small H.P. motor pumps at suitable sites. The total amount of loan required at the rate of Rs. 2,000 on an average will come to Rs. 60 lakhs.

Scheme for increasing the area under Cashewnut

60. The Department has already a programme to bring 5 lakh acres of land under cashewnut plantation in Ratnagiri district in the Third Five-Year Plan. There are 20.5 lakhs of acres of land under category (i) barren and uncultivable, (ii) cultivable waste and (iii) other fallows. Deducting 5.5 lakhs acres which are proposed now for terracing and further 5 lakhs already targetted under the current

scheme for cashewnut plantation, still 10 lakh acres are left for increasing plantation under cashewnut. It is, therefore, proposed to continue this scheme beyond the III Plan and cover additional 7 lakh acres under this crop. The total amount required at the rate of Rs. 100 per acre for 7 lakh acres will be Rs. 700.00 lakhs.

Scheme for increasing area under Mangoes

61. There is already an area of about 8,000 acres under Mango plantations. There is scope to add 40,000 acres under Alphonso and Payri. Loan of Rs. 300 per acre may be granted to the cultivators to enable them to establish mango orchards. The total amount required will be Rs. 120 lakhs.

Scheme for increasing area under Cocoanut

62. The area under Cocoanut at present is about 13,300 acres. About 2,000 acres can further be added under this plantation. The amount of loan required at the rate of Rs. 300 per acre would be Rs. 6 lakhs.

Scheme for increasing area under Arecanut

63. The area under Arecanut is about 3,700 acres at present. There is scope to add 500 acres under this plantation. At the rate of Rs. 1,000 per acre the total amount that would be required for loan would be Rs. 5 lakhs.

64. The above schemes will involve an outlay of Rs. 3,008.96 lakhs. A statement showing the details of such expenditure is enclosed (Appendix—Ratnagiri/B).

Minor Irrigation

65. There are only slender possibilities of providing flow irrigation in the Ratnagiri District. Laterite formation does not lend itself to construction of tanks, since the tank beds percolate heavily and water cannot be stored therein. Bandhara irrigation is also not possible everywhere on an extensive scale, since no irrigation is required during the Kharif season on account of heavy rainfall and very little irrigation is possible in the Rabi season on account of poor post-monsoon flow.

66. The State Government is investigating the possibilities of utilising a portion of the Koyna Tail Race for irrigation. Similarly, some irrigation is possible by lift from the tail race as well as rivers, nallas and creeks having perennial water supply.

67. In view of the very undulating terrain of this district, the irrigation channel system becomes very costly and as such, it is recommended that the normal standards of cost per acre should be relaxed in the case of this district. It would be desirable to permit construction of bandharas in this area at a cost 50 per cent higher than the normal.

68. In regard to the lift irrigation schemes, electricity should be made available to the cultivators at a concessional rate. Such a concessional rate should be still lower in this district for the reasons mentioned above than is normally made applicable for agricultural lift irrigation in the plains.

Fisheries Development

69. The Ratnagiri District has a coastline of 300 miles, ranging from the Bankot Creek in the north to the Terekhol Creek in the south bordering on Goa. The District has rich marine fisheries resources. The men who operate these fisheries are hereditary fishermen, well-known for their seafaring traditions.

70. The number of households depending on fisheries in the District is over 10,000 and the population of fishermen is about 67,000. The number of persons actively engaged in fisheries is about 12,000. The number of fishing boats is 4,500 out of which 1,800 are of the tonnage less than one ton, 2,400 are of tonnage between one and three tons and the remaining are over three tons. The total capital investment in boats at cost of purchase, is about Rs. 13.00 lakhs. The fishing gear are of several kinds, the most important being Wavri (surface drift nets), Waghur or Budi (bottom, gill nets), Rampan (shore seines), Dol (bag nets), Jot (purse seines) and long lines. The capital investment in nets is estimated to be Rs. 40 lakhs at cost of purchase. The total production of marine fish of the district is estimated to be 30,000 tons out of which over 5,000 tons is salt cured and about 10,000 tons converted into manure. The total value of the fish production is estimated to be Rs. 45 lakhs.

71. The fisheries have remained backward due to several reasons, the most important being the poverty of the fishermen, lack of good means of communication and the absence of convenient marketing facilities. One of the other inhibiting factors is the general siltation of the creeks in the District which has resulted in the diminution of fish catches in the estuaries.

72. The State Government have taken several measures for the development of fisheries of the District, the most important being the establishment of 21 fish curing yards at the important landing centres throughout the coast. The fish curing yards handle over 5,000 tons of fish every year. Steps are being taken to establish two ice factories and cold storage plants one each at Malvan and Ratnagiri. Demonstrative fishing is carried on aboard a mechanised craft equipped with modern gear. Four fisheries primary schools have been established to afford educational facilities to fishermen's children. Financial assistance is given for purchase of fisheries requisites and for mechanization of fishing crafts. However, mechanization has not made much progress because of the poverty of fishermen and the absence of markets.

Long-range Programme

73. A long-range programme of development is, therefore, necessary to afford financial and technical assistance to the fishermen and fishermen's co-operative societies in production of fish, for development of marketing, transport and preservation facilities. Considering the backwardness of the District and the age-old poverty of the fishermen; which is evidenced by the fact that about 3,000 fishermen seek employment in the fishing fleets in Greater Bombay and Kolaba District every year, the terms of assistance namely the requirement of security, the percentage of subsidy and the rate of interest of loans, will have to be liberalised as compared to other areas. The

long-range programme should aim not only at doubling the present production during a period of 20 years but also at providing commensurate facilities for shore services such as landing, servicing and refrigeration and for marketing and transport. Provision has also to be made for subsidiary industries and by-products such as fish liver oil plants and fish meal plants. A programme for vocational education and welfare has also to be provided for. Such a programme to be achieved during a period of 20 years will involve a total outlay of about Rs. 396.00 lakhs, and will include capital cost of Rs. 256.00 lakhs and a recurring cost element of Rs. 140.00 lakhs. A statement of schemes indicating the capital investment and the annual recurring cost is appended. Another statement showing the phasing of physical targets over four five-year periods is also appended.

Special Amenities

74. (1) As the fishermen are poor, the condition of security against the loan may be relaxed so that the assets created by the loan may be taken as security.

(2) The percentage of subsidy should be 50% for all equipment.

(3) Charging interest at a rate lower than usual on Government loans may be considered.

(4) Repayment of loan should commence six months after the assets created with the loan have been actually put into operation.

(5) Period of repayment should be ten years in the case of ordinary loans to individuals and more in other deserving cases.

(6) Fishermen's welfare centres with attached dispensaries should be established at important fishing centres.

Item (1)	समयमेव जयने	Capital Cost in Rs. (2)	Annual recurring cost in Rs. (3)
1. Supply of 5,000 boats at Rs. 7,000 each	35,00,000	15,000	
2. Supply of 500 engines at the rate of Rs. 12,000 each	60,00,000		
3. Ice factories and cold storages 8 Nos. at the rate of Rs. 1.25 lakhs	10,00,000	2,70,000	
4. Supply of fishery requisities at the rate of Rs. 1,000 per boat for 500 boats	1,00,00,000	15,000	
5. Boat building yards 2 Nos. at Rs. 2,00,000 each	4,00,000		
6. Mobile service stations 2 Nos. at Rs. 80,000 each	1,60,000	40,000	
7. Trucks for fish transport 16 Nos. at Rs. 30,000 each	4,80,000		
8. Transport launches 4 Nos. at Rs. 60,000 each	2,40,000		
9. Four Multi-purpose fishing boats each at Rs. 2,50,000	10,00,000	1,80,000	
10. One shark liver oil factory	5,00,000	50,000	
11. Two fish meal plants at Rs. 1,00,000 each	2,00,000	50,000	
12. Training centre in fisheries	2,00,000	30,000	
13. Fisheries High School	1,00,000	50,000	
14. Fishing port development	18,00,000		
TOTAL	2,55,80,000	7,00,000	
therefore 1,40,00,000 for 20 years.			

SUMMARY

							Rs.
Capital	..	..	..	..	..	..	2,55,80,000
Recurring	..	..	..	..	..	..	1,40,00,000
					TOTAL	..	3,95,80,000

Statement showing phasing for each five-year period

S. No.	Unit	I	II	III	IV
1. Fishing boats	125	125	125	125
2. Engines	125	125	125	125
3. Ice factories	2	2	2	2
4. Fisheries requisites	—	equal allocation	—	—
5. Boat Building Yard	1	1	—	—
6. Service Station	1	1	—	—
7. Transport Trucks	4	4	4	4
8. Transport launches	1	1	1	1
9. Multipurpose boats	2	2	—	—
10. Shark Liver Oil	—	1	—	—
11. Fish meal plant	—	1	1	—
12. Training centre	1	—	—	—
13. Fisheries High School	1	—	—	—
14. Port Development	—	Equal phasing.	—	—

Animal Husbandry

75. In the District of Ratnagiri, out of 31.65 lakh acres of land, over 17 lakh acres is such which can be utilised for production of feeds and fodder for Livestock, viz., cattle, sheep, ducks, pigs and goats, etc. In addition to this, there will be crop residues of the cultivated land and also the grasses from forest land.

76. In view of the fodder resources which can be raised, and the heavy rainfall the schemes mentioned below are recommended for the development of livestock of all classes. As regards poultry development, the State Government have proposed to start one demonstration centre in the Ratnagiri District during the Second Five-Year Plan. This is, however, admittedly too inadequate a programme for livestock improvement. The following comprehensive programme is, therefore, recommended to meet the special needs of the district. The estimated total outlay is of a little over a crore or rupees.

(1) A Central Semen Station may be established in a suitable town which is well connected to all parts of the district. From this station semen from superior bulls (Zebu and Buffalo) can be conveniently and economically transported to the various Sub-Centres. The estimated cost is about Rs. 1 lakh.

(2) Artificial insemination sub-centres for each taluka is necessary in view of the large cow population. The total initial cost involved would be Rs. 4,50,000.

- (3) A Buffalo Breeding Farm with 100 buffaloes is necessary having regard to the conditions available in the district. The estimated initial cost will be Rs. 9,45,000.
- (4) Twenty supplementary cattle breeding centres with 10 cows for each centre may be opened at a recurrent cost of Rs. 60,000 per annum.
- (5) With a view to provide superior type of bulls and to upgrade the inferior local-stock 50 breeding Bull Centres at an initial cost of Rs. 4,50,000 may be established.
- (6) Under the Fodder development programme some 18 demonstration units can be established so as to introduce crop rotation with legume fodders along with paddy. The initial cost involved is Rs. 1,80,000. It is also advisable to take up increased production of seeds, roots, cuttings, etc., of superior fodder crops and grass particularly legumes either in existing State farms or set up fodder seed multiplication units in the area. At least one existing farm may be taken up for pasture and fodder development, and about six fodder seed multiplication farms of 25 acres each set up in the area. The estimated cost would be Rs. 4,35,000.
- (7) 3,600 silo pits for preservation of fodder may be constructed at an initial cost of Rs. 23,00,000.
- (8) One Poultry Development Centre at an initial cost of Rs. 1,00,000 is necessary in the interest of poultry industry which is ancillary to agriculture.
- (9) Establishment of one poultry unit at each taluka is desirable. The total initial expenditure involved would be Rs. 5,50,000.
- (10) Two Duck Breeding Farms at initial cost of Rs. 90,000 may be established as the area is suitable for the purpose.
- (11) Two piggery units together with 8 piggery blocks can be started at an initial cost of Rs. 2,58,000.
- (12) One Sheep Breeding Farm with 250 Breeding Sheep may be established at an initial cost of Rs. 1,85,000.
- (13) Sheep Development Centres may be started under the Sheep Breeding Farm in various parts, at an initial cost of Rs. 60,000.
- (14) Three Mobile Veterinary Units may be sanctioned for control of contagious diseases at an initial cost of Rs. 75,000.

Industries

77. Rajnagiri district is in an unfavourable position both geographically and topographically. Hence the industrial development which can be planned for this area, will have to be mainly based on the exploitation of mineral resources in and around the district, and/or based on imported raw materials due to the facility of ports. Agricultural resources for industrial use are not likely to be available in abundance, at least in the near future. With the availability of power from Koyna project and the completion of the Bombay-Goa

road, the industrial development in the district, particularly in Chiplun Phophali area is likely to get considerable impetus. The perennial supply of water from Pophali (Koyna project tail waters) would make Chiplun navigable throughout the year. The Public Works Department may have to investigate and study this problem and undertake a scheme for development of Dabhol-Chiplun portion for additional and all-time navigational facilities. Due consideration should be given to Ratnagiri in future plans for the Industrial Development of the State with emphasis, on Small Scale Industries Programme. Specific industries which have scope for development are :—

- (a) Cashewnut Sheel liquid—(Malwan, Vengurla).
- (b) Levigation of ochres—(Sawantwadi)
- (c) Fish Manure and Fish Meal—(Ratnagiri).
- (d) Sailing Vessels—(Ratnagiri, Jaygad, Vijadurg, Devgad, Malwan).
- (e) Cold-storage plants for preservation of fish.
- (f) Bricks and Tiles factory—(Sawantwadi, Chiplun).
- (g) Cement products—(Sawantwadi).
- (h) Road-Metal crushing.
- (i) Building materials etc.—(Chiplun, Ratnagiri).

78. It would be desirable to establish three industrial estates at Sawantwadi, Ratnagiri and Dapoli, where there would be considerable scope for establishment of small-scale industries.

79. It would be seen that with the advent of the Koyna Power there is sufficient scope for establishment of large-scale industries. The first essential is, however, supply of electric power at rates which these power-intensive industries can bear. To that extent, provision of subsidy may have to be made, if it so becomes necessary. For each such industry, assistance in this regard would be necessary for at least about 10 years. This is a basic consideration in importing the 'First Push' towards industrialisation of the district. In other areas like Redi, Sawantwadi, upgrading of iron-ore and coloured clays respectively will have scope for development.

Cooperation

80. At present there are only 3 marketing and one fruit cultivation society in the Ratnagiri district. The main agricultural products of this District are Rice (which is the staple food crop) and amongst the cash crops are mangoes, cocoanuts, cashewnuts and arecanuts. Marketing and Multipurpose Societies registered in the District are undertaking business in mangoes and arecanuts, but the quantities handled by Co-operatives are negligible. The following measures for development of Co-operative Marketing and Processing Societies are recommended :—

1. *Sannhemp*.—The State Government had sanctioned a special Scheme for this District in 1957 with a view to improving the method of grading and sale of Sannhemp which

has some foreign market. The Scheme envisaged grant of subsidy to Cooperative Societies to enable them to give advances to the cultivators of Sannhemp. Continuance of the Scheme will go a long way in helping the growers of Sannhemp to increase production and improve the quality of Sannhemp. Sannhemp can be used for superior quality of gunny bags and tarpaulin, etc.

2. *Arecanuts*.—The special scheme sanctioned by the Indian Central Arecanut Committee, taking into consideration the importance of the Societies dealing in Arecanuts in this District needs to be continued.
3. *Mangoes*.—A society will soon be formed at Rajapur for undertaking processing of inferior quality mango slices in brine. Such societies will need financial assistance by way of loan and subsidy, specially in view of their meagre resources. Preservation of mangoes can also be undertaken by these Societies when the transhipment of mangoes to markets like Bombay is stopped towards the end of the season, due to the discontinuance of steamer services.

81. The only Society registered so far is the Vengurla Cooperative Cashew Processing Society which is understood to be in need of financial assistance. The Committee has laid considerable emphasis in growing of cashewnuts in this District and as many Societies as possible should be started for the purpose.

Forest Development

82. The Ratnagiri district was very rich in tree growth especially teak, towards the middle of the eighteenth century. Most of the wood required for ship-building by the naval powers in Maharashtra came from this district. Simultaneously the Rules enforced forest conservancy. After the establishment of the British power in Maharashtra, the Government imported and settled labourers and cleared large tracts of forests for cultivation purposes. With the promulgation of the Dunlop Proclamation in 1829, when most of the forest were placed at the disposal of the people, the forest resources dwindled very fast due to unprecedented and unchecked felling with the result that the forest area in Ratnagiri is now hardly 1.5 per cent as against the minimum of 33 1/3% required according to the National Forest Policy.

83. About 8,36,000 acres of bare and barren land mostly of uncultivable waste type is lying unutilized. About half of it is rocky, denuded and inaccessible and difficult even to afforest. An area of about 5 lakh acres can however be developed through coastal plantations, mangrove plantations, plantations of teak, khair, matchwood, and bamboos and planting of agave hedge along the demarcation line. It would also be necessary to construct some forest roads and buildings which are absolutely essential for pushing through development work. The first thing necessary is an exhaustive forest

survey of the land available. The available land should be acquired, and afforestation programmes implemented departmentally.

84. A brief outline of the work recommended is given below :—

(i) *Mangrove Plantations :*

These plantations are proposed in about 3,000 acres with a view to stabilise the banks of creeks so as to maintain them in a navigable condition, and in order to ensure adequate supply of firewood, fodder, tanning material, etc., to the neighbouring fishermen. It is estimated that the cost of the plantation per acre will be about Rs. 60 for the first year and about Rs. 15 per acre for the second year.

(ii) *Coastal Plantations :*

These are proposed in about 1,000 acres to stabilise the blowing sand, to check erosion of the coast, to increase the aesthetic effect and to meet the local demand of firewood and timber. The cost of plantation per acre is estimated to be about Rs. 120 in the first year and Rs. 60 in the Second Year and Rs. 40 in the Third Year including fire protection.

(iii) *Plantation of Economic Species :*

According to the suitability of soil conditions, important economic species will be planted. Few experimental plantations of canes, Rubber species, Tad and medicinal plantations will also be undertaken at suitable places. The cost of plantation per acre is estimated at Rs. 64.00 and the maintenance costs during subsequent years are estimated at Rs. 23.00, 9.00, 0.50 & 0.50 during 2nd, 3rd, 4th and 5th years respectively. The areas to be planted during the first, second, third, fourth and fifth years are 24,740 acres, 24,740 acres, 54,740 acres, 54,740 acres and 54,740 acres respectively.

(iv) *Plantation of Kaju :*

As Kaju is a dollar earning commodity and is eminently suited for certain patches, it is intended to take up pure plantation of Kaju in suitable area. Accordingly, it is estimated that about 25,000 acres will be available for this purpose and the same will be covered within five years at the rate of 5,000 acres per year.

85. It is expected that due to these measures an area of 2,40,000 acres will be afforested and the expenditure to be incurred will be about Rs. 202.87 lakhs spread over—say a planned period of time. In addition, some other works such as demarcation of annual areas, soil conservation works (Rs. 59,67,000) and wet nurseries (Rs. 17,25,000) will also be necessary.

86. Adequate staff will be necessary for the above development plan. One working plan Division, two or more Territorial Divisions with Divisional Forest Officers, and large subordinate staff of Rangers, Foresters and Beat Guards will be required. For transport purposes, six jeeps with trailers will have to be purchased. The

statement below will elucidate the total financial implications of the proposal:

	Preliminary stage	1st. yr.	2nd yr.	3rd yr.	4th yr.	5th yr.	Total
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Plantation	—	28,88,860	37,15,780	65,77,290	73,11,960	75,66,830	2,80,60,720
Staff Bldgs. etc.	1,57,200	8,88,400	7,60,400	12,25,900	12,25,900	11,73,400	54,31,200
TOTAL	1,57,200	37,77,260	44,76,180	78,03,190	85,37,860	87,40,230	3,34,91,920

APPENDIX—RATNAGIRI/'A'.

Outlay on schemes recommended by Inaccessible Area Committee for Ratnagiri District (Bombay State).

	Rs. in lakhs
1. Agriculture	30.08.96
2. Fisheries	3.95.80
3. Animal Husbandry	1.00.00
4. Forest	3.34.92
TOTAL	38.39.68

APPENDIX—RATNAGIRI/'B'

PLAN FOR AGRICULTURAL DEVELOPMENT IN THE RATNAGIRI DISTRICT

Statement showing the targets of different schemes for increasing the production of food and fruit crops.

Serial No.	Name of the Scheme	Target in Acres	Total cost (Rs. in lakhs)	Addl. Production in tons (5)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1	Scheme for cutting of laterite rock by machines for making paddy fields.	10,000	200.00	Paddy 3,000	
2	Scheme for converting hill slopes into paddy fields by terracing.	1,00,000	750.00	30,000	
3	Scheme for converting hill slopes into Nagli fields by partial terracing.	1,00,000	500.00	8,000	
4	Scheme for plugging small nalas for diverting water for irrigation of paddy fields.	10,000	20.00	1,800	
5	Scheme for sinking wells for irrigation of fruit orchards.	3,000 wells	90.00		
6	Scheme for supply of engine pumps or motor pumps.	1,500 motor pumps 1,500 engine pumps.	60.00		
7	Scheme for increasing the area under cashewnut.	7,00,000	700.00		

(1)	(2)	(3)	(4)	(5)	(6)
8	Scheme for increasing the area under mango.	40,000	120.00		
9	Scheme for increasing the area under coconut.	2,000	6.00		
10	Scheme for increasing the area under arecanut.	500	5.00		
11	Purchase of bulldozers, necessary implements, & establishment of workshops.	175 bulldozers 2 work-shops.	105.00 20.00		
			25,76.00		
12	Staff and purchase of tools and implements.		432.96		
GRAND TOTAL		..	30,08.96		



INACCESSIBLE AREAS COMMITTEE REPORT

PART II

4. TRIPURA



सत्यमेव जयते

TRIPURA ADMINISTRATION

General Observations

1. The Union Territory of Tripura comprising of ten Sub-divisions, is surrounded by Pakistan on three sides, and on its Eastern side, it is linked with Cachar District of Assam. The area of the territory is about 4,116 square miles (26,34,240 acres). The population, according to the Census figures of 1951 is 6.39 lakhs, of which 2.38 lakhs are tribals and 4.01 lakhs are non-tribals. With the influx of refugees, the population is now in the neighbourhood of 9.50 lakhs. About one lakh people are living in Agartala and its outskirts. The remainder population is overwhelmingly rural and is spread over in 3,626 villages. All Sub-divisional Headquarters except Agartala, are all classified as rural. Out of the total area the net area under crops in 1957-58 was 5.65 lakh acres of which about 0.78 lakh acres was double cropped.

2. The normal annual rainfall in the territory is 83.33 inches. The average rainfall during the period from May to September is 70.81 inches, representing 78.8 percent of the total rainfall; the maximum being in the month of June (19.98 inches).

3. Prior to partition, the erstwhile Tripura State was self-sufficient in food grains. Some producers could even export horticultural produce to the eastern part of un-divided Bengal. Almost complete sealing of borders of East Pakistan after partition has turned the once prosperous citrus and pine-apple gardens into liabilities, resulting in unmarketable gluts and dwindling incomes of growers. With the influx of refugees, and the resultant increase in population (56%), a self-sufficient territory has turned into a deficit area. At the same time, the influx and settlement of about 4.50 lakh refugees has created a strong demand for profitable employment, which in this dominantly agricultural territory would have to be found in intensification of agriculture in expansion of horticultural production, development of market and processing centres for horticultural produce and in cottage industries.

4. The average density of population comes to 231 persons per sq. mile. More than 80% of the population is dependant on agriculture. The fertile land in the territory is mostly the valley land while the rest of the soil in tilla and slopy areas is poor. The climate is moist and humid. The valley areas, popularly known as lunga land, are suitable mainly for paddy cultivation, while the tilla and gentle slopes are suited for horticulture.

5. Paddy is the principal crop in this territory, and Rice is the principal food. Total area under paddy cultivation is approximately four lakh acres. The average size of holding per family is 3.8 acres. Due to high pressure on land, obsolete cultivation methods and absence of irrigation facilities, this territory is yet to be self-sufficient in respect of food production and consequently depends upon imports.

6. The Inaccessible Areas Committee visited certain areas of the Territory, according to the programme drawn up by the Administration, to gain a first hand knowledge of the problems, facing such areas. The problems which are in consequence of the inaccessibility of these areas are, in a broad sense, the same in all the sub-divisions. Variations exist only in the degree of severity of adverse conditions.

7. According to the draft on the Second Plan, the daily consumption of foodgrains per capita is recommended at 15.5 ounces of foodgrains. Applying this formula, and providing a margin for increase in population, the annual total demand is calculated at 1.50 lakh tons. The annual local production is to the tune of 1.30 lakh tons and the annual shortage of 0.20 lakh tons is being met from other sources.

8. The territory being mostly hilly in nature and rainfall being high, soil erosion presents a major problem. The soil of tillas and slopes is precipitous and porous. As a result, fertile valleys have been subjected to deposits of coarse sand. No work on soil conservation was taken up during the First Five Year Plan. It was also brought to the notice of the Committee that hardly any minor irrigation programme could be taken up during the First Plan and even in first two years of the Second Plan for want of technical staff. The Committee sensed a great feeling of anxiety over this issue and strongly feel that some incentive should be created for the technical personnel to work in such far-flung areas as already recommended in para 1.37 of Committee's General Report.

9. Tripura is a land of valleys and tillas. Valleys are fully utilized for growing different agricultural crops. The tilla lands are at present not being fully utilized despite the fact that the total surface area of such lands is estimated to be over 60% of the area. The soil is principally lateritic, and free from rocks, the surface being mostly sandy with very little moisture-holding capacity. Iron and Aluminium congregations are frequently observed at good depths.

10. Two factors stand in the way of cultivation of Tilla land in Tripura, viz. (i) the difficulty of providing irrigation water at the top of the Tillas economically, during drought periods and (ii) the high acidity of the soil correction of which can also not be an economical proposition. Thus to derive the maximum benefit from each available land the best way seems to be to grow such agro-horticultural crops which can withstand drought and high soil acidity. As far as horticulture is concerned there are a number of fruit plants, plantation crops and spices which flourish under these conditions. Experience has shown that Orange, Pineapple, Litchi, Cashewnut, Pepper and Cardamom do very well. It is doubtful if other agricultural crops can be grown as profitably as the aforesaid fruits and spices plants. Perennial crops like Pineapple also reduce soil erosion.

11. The whole of the territory is inaccessible inasmuch as it has no rail link whatsoever—the nearest railway terminus is Kalkalighat in Cachar region of Assam at a distance of about 150 miles

from Agartala. Kalkalighat itself is one of the terminals of the Lumding—Badarpur Hill Section of the N.E.F. Railway. Supplies from the Central Government pool, Calcutta, are sometimes brought through the Pakistan Railways but this source is not entirely dependable.

12. As far as the transportation of foodgrains within the territory is concerned, most of the roads in this territory are fair weather Katcha roads and many do not have bridges over streams. Consequently, movement of foodgrains has to be suspended during the monsoon. While steps are taken to stock foodgrains at important centres before the onset of the monsoon, the inadequate number of godowns in far-flung areas is another handicap. This again necessitates transportation of foodgrains in emergent cases by headloads. There are also certain areas e.g., Raima Sarma Valley and Jampui Hills which can be approached only on foot.

13. As stated in para 1.21 of Part I of the General Report, the most effective remedy for inaccessible areas is to make them accessible but the phasing of such a programme will, of course, depend upon financial and technical considerations. In such areas, lack of communications is, therefore, the most important problem to be tackled, as no economic development of hilly areas is possible without adequate communication facilities.

14. The country side has been denuded of vegetation and soil fertility due to faulty cultivation, as in other inaccessible areas.

15. The Committee's recommendations, therefore, are mostly for expanded and accelerated communication programmes and introduction of improved method of cultivation.

16. With regard to maximisation of local production, suitable schemes for agricultural programmes are being recommended but care has been taken that these programmes may not result in further soil erosion. Attention is invited to para 1.20 of the General Report of the Committee in which a four pronged drive was suggested as the most practical solution for problems of such areas. Local conditions in this territory are such that every emphasis has to be laid on such a programme of action to be adopted. The four points of the plan recommended are as follows:—

- (i) Accelerating existing road development programme after re-orientating them where necessary to suit local needs and conditions.
- (ii) Maximisation of local production of foodgrains in areas where intensified agriculture can be carried out without causing soil erosion.
- (iii) Developments of Horticulture and other plantation crops in areas where agriculture is causing erosion of soil, and implementation of other non-agricultural programmes to supplement the local inhabitants' purchasing power.

- (iv) Executing effective soil conservation measures in close co-ordination with road, agriculture and horticultural development plans and implementation of afforestation schemes on an extensive scale.

Local Tenure

17. Lands in Tripura are held under four different tenures:—

- (i) *Kayemi Taluks* i.e., permanently settled estates comprise an area of about 1.45 lakh acres.
- (ii) *Takshichi Taluks* i.e., estates settled for stated periods, mostly for 20 years, with right of renewal, comprise an area of 65,507 acres out of which 54,630 acres are under tea plantations.
- (iii) *Niskar Lands* i.e., revenue-free lands held by religious or charitable institution, ex-Government servants or others for past services, cover an area of about 2,956 acres. The bulk of this area is cultivated by tenants or crop-sharers.

The rights of tenants of the estates (taluks) and Niskar lands are regulated under the Landlord Tenant Law of Tripura. Their rights are heritable but not transferable without the permission of the landlord (except where transfer is permissible under custom).

- (iv) *Khas Mahals* i.e., ryotwari holdings comprise an area of about 2,01,900 acres. These holdings are generally small, but in a few cases ryotwari holders, called jotedars hold comparatively larger areas. The rights of ryotwari holdings are not defined in any statute but they usually enjoy by custom permanent, heritable and transferable rights. Some of them lease lands to tenants or crop-sharers.

18. The present system is very complicated, and is indirectly having an adverse effect on Agriculture Production. The Committee understand that the Tripura Land Revenue and Land Reforms Bill has already been introduced in the Parliament. The Bill provides for abolition of intermediaries, regulation of rights of owners and tenants, fixation of ceilings on existing holdings and future acquisitions and prevention of fragmentation. It also seeks to consolidate and codify the law governing the land revenue administration in the territory. The Committee are of the opinion that the early implementation of the provisions of this Bill are of great importance.

Existing Food Production Programme

19. The geographical area of the Territory is about 26.34 lakh acres and the net cropped area is 5.65 lakhs. The general scheme for food production such as (i) supply of improved seeds; (ii) popularisation of the use of fertilizers and manures including green manuring, (iii) increasing areas under minor irrigation, (iv) use of improved implements and, (v) plant protection, have been adopted. The progress in the implementation of these schemes however has until recently not been satisfactory. Propaganda and demonstrations are now being conducted.

Communications

20. As stated in paras 1.21 and 1.22 of the General Report, the lot of any inaccessible area cannot be improved without adequate facilities of accessibility by road, rail or sea and internal communications by bullock carts, mule tracks or footpaths. In the case of Tripura, this is all the more necessary as horticulture which will be an important occupation of the people, needs a special co-ordinated programme of communications. Such a programme will enable the cultivator to bring his produce to the marketing and processing centres. Communication plays a vital part in this territory and unless the roads are opened, very little advantage can be derived from the production of cash and food crops.

21. The situation as detailed above and the extreme economic backwardness of these areas would justify the development of communications in such areas without reference to the population factor.

22. The road programme for the 2nd Five-Year Plan was prepared with the principal object of improving the road communication between Agartala and Sub-Divisional headquarters as well as providing a direct line of road communication with other parts of India. The original plan provision was Rs. 304 lakhs. This amount having proved inadequate for the construction of important roads and bridges, the Government of India raised the plan ceiling to Rs. 350 lakhs against a demand for 404 lakhs. This ceiling was still found inadequate and has now been revised to Rs. 386.62 lakhs.

23. In preparing the road programme for the 3rd Plan, due consideration has been given to open up remote areas. The provision made for development of rural roads during the 3rd Plan is Rs. 871 lakhs. This includes the construction of major district roads, village roads, bridges and improvement of existing village roads.

24. On account of the limited resources of the territory, it will not be possible to take up any further road development programme during the Third Plan with the result that the road development in some of the inaccessible areas will have to be staggered to the 4th Plan.

25. The Committee strongly recommend that the aforesaid proposal for the 3rd plan may be accepted by the Government of India.

Agriculture Development & Research

26. The Committee examined all the schemes relating to Agriculture, Horticulture, Minor Irrigation and Fisheries proposed for inclusion in the Third Five-Year Plan and it was felt that such schemes needed pruning. Accordingly, the outlay on these schemes was brought down from Rs. 243.534 lakhs to Rs. 159,490 lakhs. The Committee recommend the acceptance of such schemes with the

revised outlay. These schemes are falling under the following groups :—

				Amount in lakh		
				Outlay proposed in 3rd Plan.	Revised outlay.	Remarks
(1) Agro-Economic & Research	..	..	..	4·294	2·590	
(2) Agri. Research, Education & Trg.	..	..	..	14·348	9·900	
(3) Improved Seeds	..	..	..	9·308	7·500	
(4) Manure & Fertilisers	..	..	..	11·043	5·900	
(5) Improved Agri. Practices	..	..	..	6·589	5·200	
(6) Plant Protection Measures	..	..	..	32·084	16·000	
(7) Jute Development Scheme	..	..	..	6·418	4·000	
(8) Other Agricultural Schemes	..	..	..	21·500	21·500	No change
(9) Land Reclamation & Soil Conservation	..	..	..	31·845	13·000	
Total Agri. Schemes				137·429	85·590	
(10) Horticulture	..	..	..	48·892	21·900	
(11) Fisheries	..	..	..	25·213	20·000	
(12) Minor Irrigation	..	..	..	32·000	32·000	No change
GRAND TOTAL				243·534	159·490	

27. In addition, the following schemes over and above the schemes already proposed for inclusion in the Third Five Year Plan are also recommended :—

Schemes for holding demonstrations in accessible areas of Tripura.

(i) It is considered essential that Demonstration Farms should be established under problematical conditions. The cultivators have not yet been fully convinced of the benefits derived from improved seeds, fertilizers and improved agricultural practices. These methods can only be popularised by establishing demonstration farms. This scheme aims at giving demonstrations on the cultivators' plots, supervised by properly trained departmental staff so that the cultivators can be convinced of the latest improved agricultural practices. The scheme should be implemented in different areas which are difficult to approach and where there are no roads excepting foot-tracks.

Scheme for development of green manuring.

Estimated total expenditure Rs. 0.30 lakhs.

(ii) On account of the transport difficulties, the carrying cost of fertilizers is exorbitant. Further, the supply of fertilizers to the inaccessible areas becomes almost impossible during the monsoon. On account of the high cost of chemical fertilizers and also on account of their irregular supply, the cultivators do not adopt proper fertilising programmes. It is considered absolutely essential to

supply such fertilizers to the cultivators of the inaccessible areas which are readily available and are cheaper than the chemical fertilizers. It is accordingly intended to introduce green manuring programme on an intensive scale. The seed multiplication programme of the green manure seeds (Dhaincha) is also intended to be taken up in the territory itself so that the transport charges may be eliminated and the cost of the seeds reduced.

Scheme for Plant protection measures.

Estimated total expenditure Rs. 4 lakhs.

(iii) The purchasing capacity of the local farmers is meagre and the landing cost of pesticide, fungicides and plant protection equipment is very high. As such the cultivators of this territory deserve special consideration. It is recommended that transport cost of pesticides fungicides and equipment, upto their distributing centres may be subsidised so that they could be available to the cultivators at a price within their means.

Scheme for land reclamation and development

Estimated total expenditure Rs. 8 lakhs.

(iv) To bring culturable waste land and un-classified forest areas under cultivation and soil conservation, a planned phase of land reclamation may be chalked out. After the land is reclaimed, it may be developed by means of agronomical measures to make the land fit for normal cultivation. Earth-moving machinery may be used, wherever possible, to reclaim the land. After the land is prepared, some post reclamation measures may be taken up to bring the disturbed soil into standard level of fertility. In the development scheme, out of the total cost of reclamation Rs. 250 per acre may be borne by Government and the rest by the beneficiaries.

Scheme for development of cash crop and soil-seeds.

Estimated total expenditure Rs. 2.4 lakhs.

(v) There is ample scope of improving the yield of crops like sugarcane, pulses and oilseeds. The scheme aims at providing seeds at cheaper rate and also to demonstrate the utility of fertilizers and improved agricultural practices to the cultivators. The scheme is divided into two parts viz. (i) to have Multiplication Centres in the cultivators plots under the supervision of trained staff and (ii) to distribute seeds from these Multiplication Centres to the cultivators at a cheaper rate.

Scheme for cotton development.

Estimated total expenditure Rs. 2.6 lakhs.

(vi) The short staple variety 'Comilla' is the main cotton crop cultivated in Assam, Tripura and Manipur. It is most suitable for a high resilient material such as is used in blanket manufacture. It is also used for manufacture of other woollen fabrics and felts. Concerted efforts for the development of Comilla cotton have not been made in the past. The scheme aims at improving the quality and increasing the production.

Scheme for the setting up of three model orchards.

Estimated total expenditure Rs. 2.36 lakhs.

(vii) Three orchards of 10 acres each are proposed to be established in an accessible area to demonstrate to the cultivators the scientific way of fruit growing. It is intended to grow mainly those fruits which do not require much irrigation and care. This is necessary in view of the fact that irrigation on tilla land is not always economical.

Scheme for the establishment of cashewnut pilot processing plant.

Estimated total expenditure Rs. 3 lakhs.

(viii) There are large potentialities in this territory for the cultivation of Cashewnut. During the last two or three years, efforts have been made to increase the area under Cashewnut. One thousand five hundred pounds of cashewnut seeds are distributed annually on 50% subsidy. Besides, a new scheme on the cultivation of cashewnut will start functioning in 1960-61. So far an area of about 1,000 acres has been brought under this crop. Some of the plants have already started fruiting. It will, therefore, be useful if a Pilot Processing Plant for cashewnut is started in 1961-62.

Scheme for demonstration and training in preservation of fruit and vegetable on home scale.

Estimated total expenditure Rs. 0.80 lakh.

(ix) The object of the scheme is to encourage preservation of fruits and vegetables for home consumption and from wastage.

Scheme for development of spices.

Estimated total expenditure Rs. 1.30 lakhs.

(x) There is great scope for the cultivation of spices like cardamom, black pepper, cloves and nutmeg. Six pilot development centres will be set up to demonstrate the cultivation of cardamom and black pepper.

Scheme for kitchen gardening competition.

Estimated total expenditure Rs. 0.20 lakh.

(xi) There is a great dearth of vegetables in Tripura. The purpose of the scheme is to create interest amongst the people to start raising vegetables in their compounds. It is intended to give seeds of the improved varieties of vegetables and also fertilizers and manures on 50% subsidised rates.

Scheme for the establishment of experimental station for new plants.

Estimated total expenditure Rs. 0.80 lakhs.

(xii) There are a large number of varieties of fruits and other horticultural plants which have not been introduced in this territory. Before recommending to the farmers any particular species, it is necessary to test its performance. It is intended to have an area of 25 to 40 acres where all available varieties of horticultural plants to be procured from various States will be grown in block system.

Scheme for development of cashewnut.

Estimated total expenditure Rs. 21 lakhs.

(xiii) There is great scope for the cultivation of cashew nut not only because of suitable soil and climatic condition but also because a large area of tilla land is lying un-cultivated as these cannot be usefully put under other agricultural crops. It is proposed to bring 10,000 acres under cashew.

Development of Fisheries.

Scheme for fishery extension work in blocks.

Estimated total expenditure Rs. 2.8 lakhs.

(xiv) For the successful implementation of the fishery schemes by Gram Panchayats, it is necessary to have one fishery extension unit in each block to render necessary technical advice on the spot and to assist the Gram Panchayats in selecting suitable sites and in reclamation for fish culture. The Extension Unit will also organise fishermen Co-operatives and fishing group within the block area. In addition to this, the private enterprise will also be rendered technical assistance in pisciculture. A thorough survey of all the cultivable water area in blocks and the derelict water areas which can be rendered suitable for fish culture, will be undertaken by the Fishery Extension Unit. Besides the above, under each unit there will be a fry distribution centre where fry would be raised locally and distributed to the fish farmers within the blocks.

Scheme for training in fishery science.

Estimated total expenditure Rs. 0.40 lakh.

(xv) It is intended to train officers of the rank of Fishery Extension Assistants in the Inland Fishery Training Course at Calcutta to start the Fishery Extension Programme in the Blocks of the Territory.

Scheme for the development of Rudrasagar lake fisheries.

Estimated total expenditure Rs. 4 lakhs.

(xvi) The scheme has been formulated with a view to stocking the lake with adequate quantity of fairly large sized fingerlings. Rudrasagar has an average water area of 1,500 acres. At the rate of 500 fingerlings per acre, 7,50,000 fingerlings would be minimum requirement for stocking the lake annually. Adequate nursery space to raise the fingerlings has been provided in the scheme. It has also been proposed to locate an artificial breeding centre within the lake with an attached laboratory to raise the fry locally. It is also proposed under the scheme to conduct tagging experiments on some of the economical species of the lake.

(xvi) (i) Besides the above, it is proposed to introduce cyprinus carpio into the lake and the nursery space available would be used round the year for raising fingerlings to be stocked in other water areas.

Animal Husbandry and Dairying.

(xvii) The Committee strongly recommend the acceptance of the schemes of Animal Husbandry and Dairying already proposed for inclusion in the Third Five Year Plan. Over and above such schemes, the Committee also recommend the following schemes:—

Scheme for development of poultry.

Estimated total expenditure Rs. 5.56 lakhs.

(xviii) In inaccessible areas, preferably in Amarpur and Sabroom Sub-Divisions, it is intended to start 10 poultry development centres. The phased programme is two in each year in the course of five years.

(xviii) (i). Each proposed poultry developed centre will consist of a poultry demonstration unit with 50 laying stock (45 hens and 5 cocks) with necessary housing, hatching and breeding arrangements. In a compact area surrounding each of these demonstration unit, 100 trios, and 2,500 hatching eggs will be distributed taking care to see that for every exotic cock distributed with the trios, one desi cock will be sold off for table purposes, the idea being the exotic cock thus distributed will breed among the exotic hens and also among the desi hens of the locality.

(xviii) (ii). Graded eggs produced in this poultry development centre will be hatched out in the poultry demonstration unit. After some time when the villagers become more responsive and after they have learnt some of the principles of poultry husbandry from the poultry demonstration unit, incubators and breeders will be provided so that they can do their own hatching and breeding.

(xviii) (iii). After the scheme has been functioning for some time, it is expected that it will be easy to extend the activities of these development centres to a wider area.

Scheme for the setting up of a buffalo breeding farm cum fodder demonstration farm at Raima Sarma.

Estimated total expenditure Rs. 12.68 lakhs.

(xix) Raima Sarma Valley is about 80 miles from Agartala and the road communication is very bad specially in rainy season when the area becomes inaccessible. One has to walk about 40 miles to reach there from the nearest town.

(xix) (i). In Raima Sarma, the cattle population comprises mainly of buffaloes. The tribal people are more interested in keeping buffaloes there. The area has a good rainfall and the temperature is quite moderate.

(xix) (ii). It is proposed to start a buffalo breeding farm along with fodder development farm. The fodder development farm will supply green fodder and silage to the farmers of that area in addition to being of educative value to the farmers of nearby areas who may take up systematic fodder cultivation. The breeding farm will supply breeding buffalo bulls to the farmers of that area to upgrade the local buffaloes. This will improve the present stock there resulting in increase of the milk yield of buffaloes. A milk pocket

will be created in that area. A small creamery will be started along with it when the farm will start production.

Scheme for small creameries

Estimated total expenditure Rs. 1.54 lakhs.

(xx) There are some milk pockets in Tripura. Due to bad communications, it is difficult for the producers to send milk to nearest market for sale. Cream separating station can be started in these areas with advantage.

(xx) (i) Cream separating station will be placed in the milk pockets. Two or more villages will form a Co-operative Union, to whom a cream separator will be given. To begin with, these centres will be managed by the Department of the Administration. Gradually these will be handed over to the Co-operative Union. The producers will bring the milk to the centre which will be tested. Price will be paid on fat test. Each producer's milk will be separated. The skim milk will be sold back to the producer at a very nominal price. Twenty cream separators will be distributed in the first year and the remaining ten in the second year. The cream produced in these centres will be brought to the ghee heating centres. There will be ghee heating centre for every ten cream separating stations where ghee will be produced for sale. The ghee residue will be sold as cattle feed and poultry feed.

Scheme for ghee heating centre at Kumarghat

Estimated total expenditure Rs. 4.60 lakhs.

(xxi) One big ghee heating centre can be established at Kumarghat forthwith. This centre will draw milk from both Kailashahar and Dharmanagar Sub-Division. This can later be converted into a Milk Products Factory for manufacturing butter and casein or milk powder when the increased quantity of milk is available.

Scheme for the expansion of present dairy building and equipment to handle 150 mds. of milk.

Estimated total expenditure Rs. 5.30 lakhs.

(xxii) The present population of Agartala is about 80,000. It will be necessary to extend the present Dairy building and to purchase new equipments, so that this dairy can handle about 80 mds. of milk daily.

(xxii) (i) The present site has to be filled and levelled to construct new wings. A new laboratory office and new refrigeration machine will have to be constructed. The existing cold storage will also be extended to increase the storing capacity.

(xxii) (ii) There is one milk van at present for collection and distribution purposes. Two milk vans will be required for the collection of milk and one milk van will be required for the distribution of bottled milk. Another pick up van will distribute the milk to hospitals, and other institutions. The pick up van will also be used as stand-by in case of break down of any other van.

(xxii) (iii) The existing bottle filler and capper are hand operated. As the bulk supply will not be more than 50 mds. the rest of the

milk will need to be bottled. A small sized bottle washing machine and a filling machine are required.

(xxii) (iv) The size of the present boiler has also to be increased.
Development of Industries

Estimated total expenditure Rs. 0.25 lakh.

(xxiii) There is good number of scattered groups of labourers who are generally employed by the contractors on daily wage basis in the execution of contracts procured from P.W.D. and local bodies. Though these labourers put their labour in the execution of the contract, they do not get the share of profit. With a view to eliminating these contractors and to enable the groups of labourers to procure and carry out the contracts themselves, a few Labour Contract Co-operative Societies may be organised. The Society may be organised with a workable group of workers say 50 to 60 comprising of Masons, Carpenters, and Earth-workers.

(xxiii) (i) In order to make these societies work satisfactorily the following concessions are required to be given:—

- (i) Labour Co-operative Societies should be given works as are within their capacities up to Rs. 20,000 at the estimated rate without calling tenders.
- (ii) As it is difficult for labour contract societies even to find enough money for ordinary working capital, the condition for depositing earnest money may be exempted to these societies.
- (iii) As the societies will not be able to secure the services of an Engineer on part time or full time basis, the officers of the works and Buildings Department of the Administration may be asked to render all technical help in regard to the execution of the works.
- (iv) The labour contract societies may not be eligible for loans as working capital initially from the financing agency. So provision of loan upto Rs. 5,000 each is required to be made from the Government at the initial period. This loan is payable in five equal annual instalments.
- (v) There may be an arrangement for payment of the works completed from time to time.

Scheme for Gur/Khandsari Industry

Estimated total expenditure Rs. 2 lakhs.

(xxiv) The scheme is at present at an experimental stage. Achievement so far made permits setting up of production centres in sugar cane growing areas.

(xxiv) (i) The centres may be handed over to Co-operative Societies to be formed by the workers for production.

Scheme for setting of one Training-cum-Production Centre on Carpentry.

Estimated total expenditure Rs. 1.69 lakhs.

(xxv) The object of the scheme is to train up the local people in the trade of carpentry in order to make them skilled workers for

their gainful employment. Twelve months for normal training and six months for commercial (production) training will be the period of training.

(xxv) (i) The centres may be handed over to Co-operative Societies to be formed by the trainees after completion of training for follow up programme.

Model Scheme for Training-cum-Production Centre on cane and bamboo works.

Estimated total expenditure Rs. 1.14 lakhs.

(xxvi) The raw materials for the scheme are abundantly available. If the local people are trained properly, they can produce cane and bamboo articles during their spare time. The produce is expected to find a good market and this will supplement their earnings. The period of the training is six months.

(xxvi) (i) The centres may be handed over to Co-operative Societies to be formed by the trainees after completion of training for follow up programme.

Forestry Development

Estimated total expenditure Rs. 36.50 lakhs.

(xxvii) There is large scope for forestry development in Tripura. The progress made in the implementation of these schemes during the 2nd Five-Year Plan is good. The targets of some of the schemes, particularly the afforestation scheme, have already been exceeded and there is ample scope for taking up further work. All the afforestation works in this territory are undertaken by the Forest Department. At present Panchayats have not been established in the territory, and accordingly the village forests have not yet been transferred to such organisations.

(xxvii) (i) The activities of the Forest Department are proposed to be intensified by the Administration during the Third Plan. They have proposed 19 schemes at a cost of Rs. 36,49,600 for being included in the Third Plan.

(xxvii) (ii) Under the present conditions, the availability of trained staff as well as of forest labour in this territory is very limited and it will not be possible for the Administration to take any further load than that already proposed in the Third Five-Year Plan of the territory. Under the Third Plan, afforestation programme is to bring under plantation an area that will be approximately three times more than the area brought under plantation during the Second Five-Year Plan. Further, comprehensive schemes for the training of officers in forestry have also been proposed in the Third Five-Year Plan.

(xxvii) (iii) The schemes proposed for inclusion in the Third Plan also *inter alia* include jhum control scheme, cashew, pepper and coffee plantation schemes, creation of fuel timber, plywood and cane plantations of considerable areas. It will thus not be possible to take up any heavier load by the Forest Department during the Third Five-Year Plan. The Committee strongly recommend that this scheme may be accepted for the Third Five-Year Plan.

Jhum Cultivation

(xxvii) Jhum cultivation is the most widely followed method for agriculture. As already recommended by the Committee in para 1.55 of their General Report, whatever material exists in the way of scientific research in Jhum Cultivation should be converted into definite plans for implementation in areas where Jhum Cultivation is practised.

(xxviii) (i) There is, however, considerable room for improved practices in jhum areas. The Committee endorse the views expressed by Shri M. S. Sivaraman, I.C.S., Adviser, Programme Administration, Planning Commission in his note of April, 1957 (Appendix—Tripura/'A'). It is recommended that the suggestions contained therein may be followed.

(xxviii) (ii) The Committee also recommend that some Jhum land should be taken over by Government for scientific cultivation for demonstration purposes to tribal villagers without giving them the least impression of 'imposition' by Government. It is hoped that seeing better yields in adjoining Government Demonstration Units, will persuade local cultivators to adopt better techniques.

Financial Implications

28. The development of Tripura is the direct responsibility of the Central Government, and hence the question of its being made self-sufficient in as short a period as possible, is of extreme urgency due to the extraordinarily high cost of transportation and resultant subsidy borne by the Centre.

29. Although the Committee are not in a position to form an exact estimate of what a special programme is likely to cost for the achievement of the above goal, the following schemes as submitted by the Administration, are recommended for sanction, over and above the proposed revised allocation of Rs. 159.490 lakhs for the III Plan Period:—

Agriculture	55.660
Forests	36.500
Animal Husbandry	29.680
Industry	5.080 126.920 lakhs.

30. During the II Plan period, a total sum of about Rs. 43 lakhs was allocated for Agricultural Development (excluding Forest, Animal Husbandry and Industry). During III Plan period, therefore, for the Agriculture Development a total allocation of Rs. 214.150 lakhs is proposed. Ordinarily, it would not have been feasible for the Committee to recommend a special allocation of the magnitude detailed above, especially keeping in view the pace of expenditure and limited capacity of the Administration to carry out works, but in view of the special circumstances prevailing in Tripura as also its geographical position, the Committee are satisfied that the Administration would be in a position to undertake schemes as envisaged above. We, therefore, recommend that to hasten the achievement of the object of removal of inaccessibility and nearness to 'self-sufficiency' the III Plan allocation to this area should be accepted to the above tune.

APPENDIX—TRIPURA/'A'

NOTE ON JHUMMING IN N.E.F. AGENCY BY SHRI M. S. SIVARAMAN, I.C.S., ADVISER, PROGRAMME ADMINISTRATION, PLANNING COMMISSION (APRIL, 1957).

1. 99% of the total cultivated area is under a system of shifting cultivation locally known as jhuming which involves the cutting of trees and plant growth on steep hill slopes during the dry season, from November to March. The jhumed area is cropped for two seasons and then abandoned for some years to enable natural recuperation of soil fertility to take place and the same area is once again jhumed. Jhuming has been extended to most of the areas where it can be conveniently done and with every increase of population the jhuming cycle naturally tends to become shorter. This in turn affects the level of fertility and results in reduced crop yields and increasing food shortage. The practice involves considerable arduous work during the off-rainy season which also synchronises with the period of other developmental activities like construction of roads, bridle and mule paths, bridges, buildings etc. Movement of officers for local inspection takes place largely in this season and this involves great demand for labour from the local population for carrying baggage and other incidental work. Paradoxically enough every increase in beneficial activity intended to raise the standard of living and span of life in effect affects agricultural production by drawing workers away and thereby depresses the existing low standards.

2. It is therefore no exaggeration to say that, in N.E.F.A., life and developmental activities revolve round 'jhuming' for which a practical solution has to be found if food production is to go up without detriment to local development. If the burden of work involved in cutting trees can be lightened and the fertility of the jhumed area improved we should have found the key to the problem of development of backward areas of this type which are inaccessible and will continue to be inaccessible for many years to come.

3. As jhuming overshadows every other activity I shall deal at some length with it and with my suggestion for tackling the problem of jhuming in a practical and inexpensive way.

4. Jhuming is at once a method of agriculture and a way of tribal life as various communal rites are commonly observed to ensure its success. For instance, as many as ten different rites Rikti, Kombi, Mopun Binyat, Amarat Rannam, Eruk Eri, Pipak, Solung, Etor, are observed by the Miniyongs of Siang Division, in connection with jhuming. Food production in NEF Agency depends almost entirely on cultivation of hill slopes and as these slopes are very steep—often 1 in 2 or 1 in 3—there is no other alternative to jhuming in NEF Agency except near the banks of rivers. It will therefore be wrong to decry jhuming while popularising terrace cultivation in the very limited places where this can be done.

5. Apart from this, it is a mistake to assume that jhuming in itself is unscientific land use. Actually it is a practical approach to

certain inherent difficulties in preparing a proper seed bed on steep slopes where any disturbance of the surface by hoeing or ploughing will result in washing away of the fertile top soil. The tribal people therefore take care not to plough or disturb the soil before sowing. The destruction of weeds and improvement of tilth necessary for proper seed bed are achieved with the help of fire. Seeds are dibbled ahead of the onset of the monsoon so that these may not be washed away and this produces a light cover of protective vegetation which reduces erosion of the soil when the heavy rains begin. In most of the interior areas where communication is not developed and no sufficient land suitable for terracing is available, jhuming alone can be done for the present and as such every effort should be made to improve the fertility of the jhumed land.

6. At present the restoration of soil fertility depends mainly on the decay of weeds, grasses and leaves and this level of fertility is greatly reduced in two years of cropping. In order to hasten the restoration of fertility, all weeds and grasses in such areas should be suppressed by leguminous cover crops which fix nitrogen in the soil and the non-descript trees which are not all leguminous should be replaced by leguminous shrubs which can be cut or destroyed easily.

7. The above objects can be completely achieved by growing in the third year when the jhumed land is left fallow, perennial red gram (Arhar) which may be dibbled by April, 12 inches apart along the contours of slopes and in rows four feet apart. In every acre about one to two pounds of seeds of *Calapagonium Mucunoides*, a very fast growing leguminous creeper may be sown when the Arhar is about 3 to 4 weeks old. *Calapagonium* forms a thick matted growth within two months and prevents soil erosion completely and suppresses weeds and grasses. In 1952-53 I have successfully introduced *Calapagonium* for putting down weeds and grasses in cocoa-nut, pepper and citrus gardens in areas of heavy rainfall like Malabar, South Kanara and the agency portions of Vizagapatnam District.

8. The Arhar will provide extra food for the people, fix nitrogen in the soil and also improve soil fertility by leaf-fall. *Calapagonium* dries up in December and January and can be therefore destroyed by fire before sowing other crops. Left to itself the seeds get self-sown and the plants fix very large quantities of nitrogen in the soil. A variation of this method will be to grow perennial Arhar and long duration cowpeas in the Kharif season and a pea or gram crops in the rabi season or perennial leguminous shrubs like *Tephrosia Candida* or *Crotalaria Anagyroides* which are found to grow very well in NEF Agency and Assam. All the legumes mentioned above will grow upto 4,000 feet and will suit the bulk of the jhumed lands. For areas above this elevation, the choice may be made from local legumes.

9. Though *prima facie* these suggestions can be implemented even without conducting preliminary experiments, it is desirable that the Agricultural Department should carry out such experiments in selected jhumed areas so that the tribals are actually convinced of the merits of the recommendations. Yearly soil analysis

from the first year of jhuming will throw light on the extent of decline in soil fertility by cereal cropping and the improvement that takes place from growing legumes and this will help to fix the period of jhum cycle necessary for resuming cereal cultivation.

10. While experimenting to determine the minimum duration for a jhum cycle, it should be possible to combine observations on the effect of growing legumes after complete destruction of the trees in a portion of the jhumed area by using an arsenical preparation like the Atlas tree killer. This is a simple method of killing a tree and all that is required is to ring bark a narrow strip and apply the chemical to the Cambium with a brush and the tree including the roots will be killed in due course. When trees are destroyed in this manner every care should be taken to see that those held sacred by the tribals are not interfered with. As and when the tribals are convinced of the efficacy of the method of restoring soil fertility by growing legumes without waiting for years, it will not be difficult to restrict the use of the chemical to existing jhumed lands with a view to prevent large scale destruction of trees in other areas. Ultimately the shifting of cultivation will stop and the jhumed land will be cultivated from year to year with cereals followed by legumes or a mixed crop of cereal and pulses. There is no doubt some loss of fertility by soil erosion when weeding is done; but this may be offset by incorporating into the soil composts or leaves of legumes at the time of weeding. When communications are more fully developed and marketing facilities are available, it may be possible to grow on the jhumed land valuable perennial crops like pepper, long pepper, rubber etc. and obtain food from outside in exchange. Such crops will help to reduce erosion but the possibilities of growing these crops will have to be shown in the Government farms.

11. The suggestions which I have made, if followed, will help to :—

- (1) improve fertility of the jhumed land and produce more food;
- (2) shorten the jhum cycle and thereby enable larger areas to be cultivated in a year;
- (3) help to grow a pulse crop of arhar cowpeas etc. while the land is allowed to recuperate;
- (4) minimise soil erosion;
- (5) eliminate the cutting of trees and thereby enable the raising of a rabi crop and release more labour for other developmental activities; and
- (6) convert the jhumed lands into areas of stabilised, permanent cultivation.

INACCESSIBLE AREAS COMMITTEE REPORT

PART II

5. UTTAR PRADESH



HILLY DISTRICTS OF UTTAR PRADESH

General Observations

The Inaccessible Areas Committee visited the Hills Division of Uttar Pradesh according to the programme drawn up by the State Government. The problems which are in consequence of the inaccessibility of this region are, in a broad sense, the same in all districts. Variations exist only in the degree of severity of adverse conditions. The comparative prosperity of some Almora valleys may, however, be a possible exception to this general observation.

2. The hilly region of U.P. is mostly comprised of Nainital, Almora, Tehri Garhwal, Garhwal and Dehradun districts and the area as a whole is bounded by Tibet on the North, plains of U.P. on the South, Nepal on the East and Himachal Pradesh and Punjab States on the West, and amounts to 19,360 sq. miles. According to the draft of the Second Plan, the daily consumption per capita is recommended at 15.5 ounces of foodgrains and 2.8 ounces of pulses. Applying this formula, and providing a margin for likely increased consumption per capita, and increase in population the total demand by the end of the Plan period is calculated at 4.72 lakh tons. Estimated local production is expected to be 2.22 lakh tons and the shortage of 2.50 lakh tons will have to be met either from neighbouring districts or other resources.

3. According to the terms of reference, only the hill districts of U.P. come under the purview of the Committee's investigation and as such, necessary information only with regard to the Districts of Nainital, Almora, Tehri-Garhwal, Garhwal and Dehradun was furnished to the Committee and considered by it. It was subsequently brought to the notice of the Committee that in some other cases, although entire districts are not inaccessible, certain areas namely Robertsganj of District Mirzapur, Pattha area of District Banda, and Ghar area of District Saharanpur also fall under the category of 'inaccessible areas'. The Committee, however, was not in a position to take into consideration the problems of these areas while formulating their recommendations, as they do not come within the purview of their terms of reference.

4. As stated in para 1.21 of Part I of the General Report, the most effective remedy for inaccessible areas is to make them accessible, but the phasing of such a programme will, of course, depend upon financial and technical considerations. As in other such areas, lack of communications is the most important problem to be tackled, as no economic development of mountainous areas is possible without adequate communication facilities.

5. The Committee investigated the existing plans for development of communications either from State plan funds or special Central Grants, and whether it would be possible to enhance existing targets, and, if so, what would be the requirements for additional funds and the period over which the programme could be phased.

6. It was found that the State Government are alive to the need of development of communication in the hill areas. Besides Rs. 288.18

lakhs provided in the Second Plan, an allotment of Rs. 20.00 lakhs has been made for this purpose out of the Special Loan Assistance of Rs. 2 crores sanctioned by the Government of India. It has not been possible for the State Government to do more, because of lack of finances.

7. It was brought to the Committee's notice that development programmes including those pertaining to communications have not been equitably distributed amongst all the Hill districts of the State. The Dehra Dun district has not received as much attention as some of the other districts. The Committee will recommend that such complaints should be taken into consideration and, wherever justified, should be removed.

8. It was found that some roads constructed through 'Shramdan' have not been taken over by the State P.W.D. due to financial or administrative difficulties and they are rapidly falling into disrepair. Such instances suggest a lack of coordination at the planning stage. The almost universal practice, of constructing 'Shramdan' roads at official or non-official instance, without prior consideration of subsequent maintenance and improvement, should end as it will most likely lead to the masses losing faith in 'Shramdan'.

9. The question of installing ropeways in very difficult and remote terrain has also been examined by the State Government, but the proposal has not made much headway, owing to financial difficulties, lack of technical know-how and restrictions on foreign exchange.

10. The economic problem of U.P. hills is similar to other such regions and the poverty is mostly due to extreme soil erosion. The countryside has been denuded of almost all vegetation and soil fertility due to faulty cultivation, and the absence of effective terracing, and afforestation programmes.

11. The Committee's recommendations, therefore, are mostly for an expanded and accelerated communication programme and introduction of soil conservation and afforestation measures as a long-term policy. The loss of soil fertility is so severe that in certain areas there is a strong demand for transfer of population to the plains. This example is quoted only to show that in many cases devastation through soil erosion has been severe enough even to convince the extremely conservative hillman that further efforts at cultivation in this existing holding will be fruitless. To a large extent cultivation in such areas hardly yields enough to provide two to four months food to the cultivators. This has resulted in large numbers of local hillmen seeking domestic employment in the plains or to join the Defence Services for supplementing their income.

12. With regard to maximisation of local production, suitable schemes for minor irrigation and other agricultural programmes are being recommended but care has been taken that these programmes may not result in further soil erosion.

13. It was suggested to the Committee that due to the extreme poverty which prevails in these areas, at times there is a tendency amongst the local cultivators to misuse loans, subsidies etc. for purposes other than those for which they have been granted. To obviate

any, such misuse of Government aid, the Committee recommend that the State Government, wherever possible, should extend such aid in kind, e.g., fertilisers, seeds, implements, insecticides etc. Similarly it was also proposed that for trainees, system of free board and lodging should replace the advancement of cash stipends.

14. Attention is invited to para 1.20 of the General Report of the Committee in which a four-pronged drive was suggested as the most practical solution for problems of such areas. Local conditions in the hills of U.P. are such that every emphasis has to be laid on such a programme of action to be adopted. The four points of the plan recommended are as follows:—

- (i) Accelerating existing road development programmes after reorientating them where necessary to suit local needs and conditions.
- (ii) Maximisation of local production of foodgrains in areas where intensified agriculture can be carried out without causing soil erosion.
- (iii) Development of Horticulture and other Plantation crops in areas where agriculture is causing erosion of soil, and implementation of other non-agricultural programmes to supplement the local inhabitants' purchasing power.
- (iv) Executing effective soil conservation measures in close coordination with Road, Agriculture and Horticultural development plans and implementation of Afforestation schemes on an extensive scale.

15. With regard to other programmes of development due importance has been allotted to horticulture and non-agricultural schemes including cottage industries.

Existing Food Production Programmes

16. The geographical area of these districts is 124 lakh acres and the net area shown is 19.32 lakh acres. The general State-wise schemes for food production such as improved seeds, improved agricultural practices, plant protection, conservation and reclamation of soil, kacha bundhies are also in execution in these districts.

17. Keeping in view the local conditions, the food production schemes are generally working satisfactorily. There is reported to be good scope for small kacha bundhies. The culturable wastes in these districts are about 4.85 lakh acres.

18. Although the cultivators are generally conversant with the benefit of fertilizers, still very little quantity is used by them. The main bottle-neck is the prohibitive cost of fertilizers. This is due to high transport charges which have to be paid in obtaining fertilizers from the rail-head to the destination. As most of the cultivators are very poor, the demand for fertilizers has been very low. Taqavi loans are also granted for encouraging the use of fertilisers. Recently a scheme has been formulated for subsidising transport of fertilisers in hill areas. Green manuring is becoming popular gradually.

Felling of Forests

19. It is felt that contracts of felling of forests involving small blocks may be given to local Co-operative Societies which may be formed with Government aided capital. This proposal is recommended for consideration along with the proposal that resin extraction and manufacture of terpentine on a cottage scale by Co-operative Societies may also be developed as a programme.

Staff Pattern

20. The present tendency to implement the same development and staff pattern in the hills as is prevalent in the plains is faulty. As pointed out in Paras 1.36 and 1.39 of Part I General Report, agricultural research should be carried out in conditions best suited to the rugged conditions of these areas. It is recommended that there should be a provision for 9 Extension Officers. It may be possible to combine the functions of Extension Officers, Soil Conservation and Forests. In that case only 8 Extension Officers would be needed. It is, however, very necessary that the number of Gram Sewaks should be increased from 10 to at least 15 as the present area of a Gram Sewak is very unwieldy and it is not possible for him to give attention to all the villages in his charge. It is also felt that besides jeeps, ponies and horses may be provided for them.

21. With the emergence of N.E.S. Block as the Unit for development work, it is necessary that most of the schemes for the hill areas should be executed through the Block Administration. Attempts should, therefore, be made to increase the allotments for different programmes in the budget of the Blocks rather than to establishment of parallel and duplicate organisations. Moreover, attention in the first instance should be devoted to the block area for intensive work. With an increase in resources, various additional schemes can be further extended to non-block areas.

22. It will also be necessary to establish Research and processing on Agricultural and Horticultural subjects.

Trade Between U.P. Border Area and Western Tibet

23. The apprehension that in course of time the trade between the border area and Western Tibet may be adversely affected has been kept in view in planning the development of that area. The principal commodity which the people of the border areas bring from Tibet is wool. They consume some of it themselves and sell the rest to buyers in this country. Their dependence on Tibetan sources would continue as long as they do not produce their own wool in adequate quantities. In order to make that possible, it is necessary to step up production in the border area and concurrently to upgrade the quality of wool.

24. The progressive increase in the number of livestock in the border area has posed the problem of winter grazing. During the summer the flocks are driven up to the high altitude grazing grounds (Bugyals) where forage is to be had in comparative abundance. During winter, however, these grazing grounds become snow bound and the animals have to be brought down in search of fodder. The winter grazing grounds to which the inhabitants of the border areas return with their animals are almost all located in the Tarai and

Bhabar tract of Kumaon. The pressure on those grazing grounds has of late become very great both on account of the increase in the number of sheep and cattle and curtailment of grazing area with progressive reclamation of the Tarai and Bhabar for raising crops and settling displaced persons, ex-servicemen, political sufferers and educated unemployed. The problem of winter grazing for animals from the border areas has thus assumed menacing proportions. An all-out effort is necessary to solve the problem of developing more and improved pastures in collaboration with the Forest Department.

Fall in Recruitment of Army

25. It was represented to the Committee that there was a fall in recruitment to Army from all the Hill Districts of U.P. and that fall had quite a severe impact on their economy, especially in areas which until recently were heavily recruited and depended upon service in the Army as their main supplementary source of income and financial security. In order to see that they should not be deprived of an established vocation without any alternative occupation to help reduce their economic problem, a reference was made to the Ministry of Defence who, in turn, have pointed out that such a fall was the case in the country as a whole. As a matter of fact, while the requirement of recruitment for the whole country in 1958-59, was only about 54% of that in 1957-58 so far as five hill districts of U.P. were concerned, the recruitment in 1958-59 was larger in proportion, i.e., 63% of that in 1957-58.

Central Pattern of Assistance

26. As regards the pattern of Central assistance to be given for schemes in these Districts, the Committee would like to emphasise that the normal pattern applicable to the rest of the country should be relaxed. After taking into account all the circumstances prevailing in the various inaccessible areas, the Committee have come to the conclusion, and accordingly recommend that the pattern of Central assistance should be on the following basis :

Pilot Schemes	..	..	100% subsidy.
Other schemes	..	..	66% subsidy to be shared between the Centre and the State.

27. At present well schemes are subsidised only in the case of those pertaining to foodgrain production. In inaccessible and economically under-developed areas, horticulture plays an important economic part, and therefore, the Committee recommend that schemes for horticulture purposes should be made eligible for subsidy at 33%. The Committee would also recommend that on similar grounds schemes for supply of engines and pumps should be made eligible for subsidy at 66% to be shared equally between the Centre and State Government.

Financial Implications

28. The Committee find it difficult to form a fair estimate of what a special programme is likely to cost for the development of these Districts. As mentioned in the General Report of the Committee (paras 1.13 to 1.15) the Committee have already expressed

their firm opinion that within the resources of normal planning at State level, districts like Almora, Nainital, Garhwal, Tehri-Garhwal and Dehradun can never hope to reach a state of comparative development with more fortunate and better developed areas. The problems of these areas will necessarily have to be deemed National and special provisions therefor made in addition to existing plan schemes.

29. In the case of Ratnagiri, the Committee's recommendations were based on per capita basis and it was recommended that in the Third Plan, Ratnagiri should benefit from a Plan allocation which should be 50% higher than what would normally fall to its lot in the Third Plan period. In the case of these Hilly areas districts, the Committee feels that any calculations on per capita basis will not be fair as they are generally very sparsely populated. As such the Committee would recommend that the size of the Third Plan earmarked for these areas may be $3\frac{3}{4}$ times the size of the Second Plan, on the presumption that the normal increase in the size of the Third Plan will be $2\frac{1}{2}$ times the size of the Second. The same formula may, in a broad sense, be made to apply for other financial assistance extended to these areas by the Government of India.

30. The schemes recommended by the Committee involve a total proposed outlay of Rs. 1,237.17 lakhs which can be phased over a period of time according to the availability of the funds. The break-up of the total outlay is as under :—

							Rs. in lakhs
1. Communication	..	..	..	..	..	..	789·04
2. Agriculture	..	..	..	..	..	..	225·62
3. Minor Irrigation	..	..	..	..	..	..	96·00
4. Animal Husbandry	..	..	..	..	..	..	19·63
5. Fisheries	..	..	..	..	..	..	0·79
6. Horticulture	..	..	..	..	..	..	51·70
7. Industries	..	..	..	..	..	..	18·39
8. Soil Conservation & Afforestation	..	..	..	..	..	..	36·00
TOTAL							1,237·17

Communications

31. Means of communications have generally been inadequate in the hills of Uttar Pradesh in comparison with the plain areas of the State. There are vast stretches of land yet inaccessible both in the interior mountainous areas and the foothills.

32. The five hilly districts of Nainital, Almora, Garhwal, Tehri-Garhwal and Dehradun have an area of about 1/6th of the total area of the entire State of Uttar Pradesh whereas the population of these districts is only 4% of the State population. Such a situation makes it necessary for Government to decide that in recognition of the extreme economic backwardness of these hills, and other important considerations, the population factor should not influence any consideration in favour of development of communication in such areas.

It would be appropriate to quote from the draft of the Second Plan as follows :—

"The Nagpur plan of post-war road development laid down as far back as 1943 certain broad objectives for road development in the country. It took a 20-year view and proposed that at the end of this period no village in a well developed agricultural area should remain more than five miles from a main road. With the political integration of the country after partition, it became necessary to take a more comprehensive view of road development, with special regard to the needs of Part B and Part C States and the States affected by Partition. Attention had to be given to connecting these areas more closely with the rest of the country by improving the existing roads and providing the missing links and bridges. This special task has been largely accomplished".

Further on it is said, "The programme takes account of the special needs of background areas which could not be given adequate attention in the first plan".

33. The conclusion can, therefore, be drawn that although the need for opening out these areas has earned due recognition, progress of actual work in the First Plan was not what it should have been. It can also be presumed that since the unit to be linked to main roads has been declared to be the village, sparsely populated areas should not be far behind thickly populated areas in consideration for road development programmes. These regions lie on the northern borders of the country and are Nationally important from strategic point of view. The rail heads in these districts and at Kathgodam, Tanakpur, Kotdwara, Dehradun and Rishikesh and the approach to the interior can only be by road. The position of roads in these districts in 1947 was as follows :—

Name	Mileage of motor roads	Mileage of unmetalled P.W.D. roads	Mileage of unmetalled roads with Zila Board
1. Nainital	89	63	237
2. Almora	135	127	1,102
3. Garhwal	166	331	863
4. Tehri-Garhwal	169	86	—
5. Dehradun	131	23	178

This mileage was very insufficient particularly in view of the fact that the population is peppered over long distances of difficult terrain, hill rivulets, dislocating even approach on foot during monsoon months.

34. Development of roads during 10 years, i.e., up to 1956 is indicated below :

Name of district	Motor Roads		Bridle Roads	
	1947	1956	1947	1956
Nainital	89	188	305	352
Almora	135	399	1,229	1,112
Garhwal	166	233	1,194	1,413
Tehri-Garhwal	169	169	918	918
Dehradun	131	157	211	187

Government of India have been subsidising several other schemes for the development of this region and had sanctioned the following amounts in addition to the First Five Year Plan :—

- (i) Improvement of Roorkee-Hardwar-Badrinath Road—Rs. 43.059 lakhs subject to a maximum of Rs. 22.5 lakhs to be allocated from C.R.F. Reserve and the balance to be met from C.R.F. allocations.
- (ii) Construction of Gulabkoti-Joshimath section of the Chilmoli-Joshimath Road subject to a maximum of Rs. 10 lakhs to be met from Central Road Fund Reserve and the balance to be met from the State's own resources.
- (iii) Scheme for roads and bridges costing Rs. 2.5 crores sanctioned as 'Unemployment Relief Scheme' was to be met by the Government of India. The share of the hill districts under this scheme was more than 60% and provided projects in Almora, Garhwal and Tehri-Garhwal Districts. It was brought to the Committee's notice that Dehradun District was not included in this scheme. These schemes are at present nearing completion excepting a few which are held up on account of the finances required to meet increases in costs. This has now been proposed to be met from C.R.F. allocations. The Committee would recommend that all Districts should be included in such programmes on an equitable basis.

35. The Second Five Year Plan for roads and bridges provides a total expenditure of Rs. 2.72 crores for the development of communications in the hill districts alone. It is about 20% of the total State outlay on road schemes during the Second Five Year Plan period.

36. During 1958-59, a scheme costing Rs. 54 lakhs was sanctioned by the State Government for the construction of roads and bridges on the border areas and it is being implemented.

37. Recently Government of India have sanctioned a loan of Rs. 2 crores for the development of backward areas in the State. Out of this a sum of Rs. 33 lakhs has been allocated for the construction of roads and bridges in these areas.

38. Most of the works provided in the Second Five Year Plan have been commenced. The Committee was informed that those,

not sanctioned so far, would be sanctioned in time for the next financial year.

39. Despite all this effort, vast stretches remain which are still inaccessible, and need immediate attention to be brought in line with the areas which have been fortunate enough to be opened out. The special schemes which have been drawn up over and above existing Plan schemes for the inaccessible areas of Almora, Nainital, Garhwal, Tehri-Garhwal and Dehradun Districts provide for the construction of 940 miles of roads and bridges at a cost of Rs. 789 lakhs. The details of expenditure are enclosed. (Appendix—U.P./'A').

40. Construction work in such inaccessible areas is full of difficulties because of non-availability of accommodation for the staff and workmen and shortage of local labour to execute the work. It is essential, therefore, to import outside labour and provide huts for them. Residential accommodation, even though temporary, will also have to be provided for the supervisory staff. Apart from this, special equipment to facilitate work in mountainous and rocky conditions will also be necessary. It is for this reason that specific provision has been made for these items. Before actual execution of the work is taken up, it will be necessary to survey these projects to prepare proper and detailed estimates. Before sanction of the scheme, the sanction of the survey for difficult projects should be made available in advance so that it may be possible to arrive at a reliable current estimate of the cost of works. A thorough survey also removes all chances of subsequent change in designs and alignments which at present are not infrequent. The expenditure on surveys will be only to the tune of 1½% of the total cost of the scheme and in the Committee's opinion is more than justified. The total amount of Rs. 789.04 lakhs excludes this expenditure.

41. For the execution of these schemes additional technical staff will be necessary, and to begin with, at least one unit of a Superintending Engineer's Circle comprising of five divisions will be necessary. The importance on priority basis of roads recommended by the Committee has been given in Appendix U.P./'B'. The Committee have also drawn up a Master Plan for a period of 20 years keeping in view the extent of inaccessibility of the areas which is also appended (Appendix U.P./'C').

42. The Committee's recommendations in respect of various schemes to be taken up for agriculture and allied development of the area under report are given below :—

AGRICULTURAL DEVELOPMENT AND RESEARCH

Scheme for Castor Plantation in Hill Areas of U.P.

43. The requirement of vegetable oils for non-edible industrial purposes is on the increase. In addition to internal consumption, there is a great demand for export of oils and oil cakes which have proved to be excellent foreign exchange earners. Castor oil has been found to possess unique qualities for use in medicine and chemicals and as a lubricant of Aerojet engines and dyeing of cotton, silk and leather goods.

44. At present cultivation of castor is being popularised in all the plain districts of the State with the help of the existing staff. There is a great scope for extension of castor cultivation in the hilly areas up to an altitude of 2,000 to 4,000 ft. It is recommended that castor may be extensively planted especially along the slopes in the five hilly districts of the State, viz., Dehradun, Nainital, Almora, Pauri-Garhwal and Tehri-Garhwal. This scheme may be coordinated with Ericulture scheme also recommended in this report.

Programme

45. The National Extension Block should form the central agency for implementation of this programme. There are 93 blocks in the five hilly districts of Uttar Pradesh out of which it is expected that this work can be taken up in about 60 blocks. In the first instance, it is recommended that an area of 50 acres in each block may be taken up as Pilot Scheme and this should gradually be extended to about 200 acres in the 5th or 6th year. The Committee recommends that in this programme free seed should be distributed to begin with so that cultivators may receive an inducement to undertake a new programme. Provision of easily available processing and marketing facilities will be a most essential aspect of this programme. Proposals for the necessary extra staff are appended at Appendix—U.P./'D'.

46. The scheme is intended for a period of six years from 1960-61 to 1965-66 and will involve an expenditure of Rs. 10.20 lakhs out of which Rs. 10.15 lakhs may be met by Indian Central Oilseeds Committee by way of assistance. The details of such expenditure are appended. (Appendix U.P./'E').

Scheme for Development of Sisal Cultivation in Hill Districts of Uttar Pradesh.

47. Sisal belongs to the category of fibres known as "Hard Fibre" and is obtained from the leaves of different species of the Genus Agave. Of the four species commonly found in India, Agave Sisalanea and Agave Cantala are usually used for the purpose of extraction of fibre. The plant of the Agave species commonly known as Rambans grows all over the hilly areas of the State, and has been completely naturalised. The plant is cultivated on a small scale as a hedge for protection against wild animals or stray cattle. It is an excellent soil binder for arresting soil erosion, and can grow and thrive in poor soil. Agave Sisalanea can be grown in low rain-fall areas but Agave Cantala can usually be grown in areas having a rainfall of 40" or higher.

48. Agave is essentially a planters crop and for a successful enterprise pre-planned and systematic cultivation is necessary. This plant will have to be extensively cultivated in lands unfit for foodgrain cultivation. A period of 3 to 4 years must pass before the plants are sufficiently mature for harvesting the leaves. The leaves are harvested by rotation and the plants thrive for a period of 8 to 10 years. Careful planning will, therefore, be necessary in formulation of a programme of planned rotation and spacing.

49. From the leaves of Agave species, an excellent fibre, suitable for ropes and cordages of almost all descriptions is extracted. In

other tropical countries like Mexico and British East Africa, the Agave plants are extensively cultivated for the extraction of fibre. India is deficient in hard fibres which are essentially required for cordages, and its demand in foreign countries is equally high. As such the Committee places considerable confidence in the success of this proposal. The staff outlined for the castor scheme can also look after the work of the sisal scheme. It is proposed that this crop may mostly be sown as a border crop so as to serve as a protective hedge also. Some areas, however, be devoted entirely to the cultivation of sisal also. It is desirable to commence this work in the 60 blocks selected for the Castor Scheme. To start with, about 5 acres may be taken in each block which may be extended to about 50 acres by the end of the Third Five Year Plan. Free supply of suckers and bulbils in the first year of the plantation on the lines of the distribution of free castor seed will have to be made in order to serve as an incentive for growing this crop. The Committee also wish to point out the value of this scheme from the point of view of soil conservation.

50. In the initial stages the Governments and private planters of Orissa and West Bengal can be asked to supply suckers and bulbils against cost. Local resources can also be tapped and suckers and bulbils of the species available in Uttar Pradesh may be collected wherever found.

Extraction of Fibre

51. In order to avoid exploitation of this raw material by commercial interests outside the hilly areas, it will be necessary to maintain fibre extraction machines at the headquarters of each block. In Orissa, the fibre is extracted from the leaves with a small hand-operated machine which costs about Rs. 25. A number of machines needed for extraction of fibre in every block according to the area under plantation will be necessary. Hillmen, especially in remote under-developed areas, remain idle for considerable periods and can use the local produce of sisal fibre for making ropes, bags, mats, etc. for which a ready market exists. Sisal fibre, after degumming, has also been found suitable for the manufacture of Canvas, Wagon tilts, Ground sheets, Twines and Hand bags.

52. The total expenditure involved would be to the tune of Rs. 0.40 lakhs spread over a six years' period commencing from 1960-61. Details of expenditure are appended at Appendix U.P./'F'.

Scheme for the Establishment of Regional Research Station in Hills

53. Five Government Farms of the Agriculture Department have been converted into research stations, viz., Banaras, Amrokh, Hardoi, Nawabganj and Meerut where full-fledged teams of research workers are posted for testing the suitability of the recommendations of research sections under prevailing agro-climatic conditions and also find solutions to special regional problems.

54. Somehow, during the Second Plan period similar facilities could not be provided in the hilly areas. Later on such a necessity was to some extent recognised in the face of problems and conditions of hilly areas being vastly different to those existing in the plains. Accordingly one Group I Assistant was posted at Majhera

farm for carrying out research work for the benefit of the hilly region of the State. This arrangement is grossly inadequate in view of diverse conditions, cropping patterns, and problems prevailing in the valley areas and on higher altitudes.

55. It is, therefore, imperative that at least one full-fledged Regional Research Station is established in the hilly areas of Uttar Pradesh. This Research Station may be under the charge of a Regional Research Officer who should preferably be an Agronomist. He may be assisted by 3 Group I Assistants and 3 Group III Assistants.

56. It will also be necessary to acquire 50 acres of land for this station, and some essential farm buildings, laboratory and residential quarters for the staff would also be required in addition to the provision of irrigation facilities.

57. The estimated expenditure during the 6 years from 1960-61 to 1965-66 would be approximately Rs. 5.512 lakhs out of which approximately Rs. 2.296 lakhs would be required during the first year. The details of expenditure are shown in Appendix U.P./'G'.

Potato Development and Seed Multiplication Scheme

58. Considerable scope exists for the development of fruits and vegetables including potatoes, so as to provide a minimum of 3 ounces of fruits, 7 ounces of vegetables, and 3 ounces of potatoes, per capita per day. There are still certain areas which have not yet been fully developed on account of their inaccessibility but are immensely suited for the production of potatoes and may now be developed on scientific lines.

59. In Uttar Pradesh the potato covers about 2.5 lakh acres, as an important cash crop. In the Third Plan it is hoped to increase this area to 6 lakh acres for self-sufficiency in potato consumption. The requirement of seed alone, which in its first stage should come from the hills, will be a formidable problem. Higher altitudes which are specially suited for raising of disease-free quality of seed potatoes can, therefore, very well be developed for potato seed multiplication of the latest varieties.

60. At present, several local varieties are grown in these regions which are very poor yielders and highly infected with diseases. During the last few years these varieties are slowly being replaced by better ones and some increases in yields have also taken place. In Himachal Pradesh, improved varieties have replaced above 60% of the local varieties sown there, with the result that Himachal Pradesh has now built up a Nation-wide market for the supply of improved seed. There seems to be no reason why the potato growers of U.P. should not share the dramatic economic advancement which potato growers in Himachal have had the good fortune to enjoy in similar agro-climatic conditions. A scheme to make the hilly zone of U.P. self-sufficient in improved seed and eventually a supply zone for the plain areas of the State is therefore overdue.

61. In order to make this scheme effective, it would be necessary for a net work of potato seed multiplication farms to be established where transport facilities are likely to be provided in the near future.

These farms will produce stocks of potato seed and also serve as demonstration centres for other horticultural activities. A survey of the area, to locate the centres with this in mind, should be made as soon as possible.

62. It is recommended that four farms of 10 acres each in each of the five districts may be established covering a total area of 200 acres. The yield of foundation stocks at these farms can be estimated to be about 20,000 maunds. This stock can be distributed to registered growers of these areas for further multiplication. It is expected that about 2,00,000 maunds of seed potatoes will ultimately be available for replacement of local varieties in the hills and for distribution in the plains of the State or for export to other States. As a short term plan, much can be done immediately to intensify cultivation of this crop by affording some financial assistance to the cultivators. Lack of fertilizers appears to be a very serious bottleneck in producing good yields of potato in these hilly and inaccessible tracts, and to increase the average yield a liberal application of fertilizers is necessary. It is, therefore, recommended that a subsidy of Rs. 2 per maund should be granted on the transport of 8,120 maunds of fertilizers annually for intensive cultivation of potato over an area of 1,280 acres. This subsidy on fertilisers would amount to Rs. 10,240 annually. Similarly, it will be necessary to subsidise the transport of insecticides for which a provision of Rs. 8,000 annually has been included.

63. The foundation stock produced at the centres will need scientific storage for distribution to registered growers, in the following sowing season. Government will, therefore, have to provide adequate storage facilities. With regard to seed produced by the Registered growers, it will not, however, be possible for Government to purchase the produce and arrange for its disposal in the plains. It is, therefore, proposed that marketing of potatoes produced by Registered growers in these areas should be undertaken by the Cooperative Department.

64. This scheme may be directly controlled by a Potato Development Officer (Inaccessible Areas), who can be from the Junior Class II Scale. He can be assisted by five District Potato Development Inspectors (Group II) in each district, and one Potato Development Inspector Group II at Headquarters, along with adequate technical and non-technical staff. Godowns for storing potatoes have also been provided in the scheme.

65. The expenditure of the scheme amounting to Rs. 36.24 lakhs is detailed in Appendix—U.P./H' which can be incurred in six years from 1960-61 to 1965-66.

Scheme for the Establishment of Multi-purpose Farms in Jaunsar-Bawar Areas.

66. The Jaunsar and Bawar area of the Dehradun District in U.P. is very backward in agricultural development. The main reason for this backwardness has been the absence of a local multi-purpose farm to demonstrate the usefulness of improved agricultural and horticultural practices. Four such farms, sanctioned last year, will mainly be utilised for building up disease-free seed stocks of potato.

They have, therefore, necessarily to be located at Higher altitudes only. In order to meet the requirement of lower and medium altitudes of this area, it is essential to start two more farms. The function of these farms will be to act as demonstration centres where all agricultural and horticultural practices, as suited to that area, will be suitably demonstrated.

67. The details of the expenditure of Rs. 3.38 lakhs involved are given in Appendix—U.P./'I'.

The scheme is intended to be spread over a period of six years.

Bench Terracing Scheme for the Hilly Areas of U.P.

68. The importance of bench terracing has already been referred to by the Committee. This subject has been neglected in the past to an extreme that has mainly resulted in the present devastated soil conditions. Very serious damage has already been done to soils by cultivation on faulty or unterraced land. Even in these places where terracing has been attempted, it has been half-hearted and not on scientific lines. The slopes of the terraces are such that rain carries soil unrestricted into the rivers below. Almost every hill side in the entire region shows signs of such terracing having resulted in progressively poor soil fertility after every monsoon until ultimately the fields were abandoned.

69. It is recommended that an area of about 2,500 acres be taken up each year on watershed basis and bench terracing be carried out in areas where no terracing has been undertaken at all, and the existing terraces modified in such a way that erosion of soil is minimised.

70. For obvious reasons any scheme of soil conservation in the hills must be planned on a long term basis. It is recommended that a plan for the next 20 years, at the rate of 2,500 acres per year be taken up, so that at least 50,000 acres are properly terraced. During the course of this work, it is expected that cultivators, who can afford to do the work themselves, will follow the newly established system after seeing its favourable results and the scheme will become self-propelling.

71. The work under this scheme can be taken up on the Bombay pattern, i.e., all the work in connection with soil conservation is done by the Department and recoveries of the cost made from the cultivators in easy instalments. The cost of terracing in the hills is approximately Rs. 1,000 per acre. As recommended in the case of Ratnagiri District of Bombay, substantial subsidy to be given to the cultivator will be necessary. Because of the difficult terrain in the hills, the staff needed should be more than that for the same area in the plains. One Soil Conservation Officer for the five districts will be enough but it will be necessary to have an Assistant Engineer and one Agronomist (in Group I of the S.A.S.) in each district.

72. The total cost of the scheme works out to be approximately Rs. 169.90 lakhs out of which Rs. 28.27 lakhs will be needed till the end of the Second Five Year Plan. The financial aspect of the scheme is shown in Appendix—U.P./'J'.

73. The above schemes relating to agricultural development will involve an outlay of Rs. 225.62 lakhs as indicated below :—

S. No.	Name of Scheme	District to which it concerns	Outlay (Rs.)	Details in Appendix U.P.	Remarks
1.	Castor Plantation	1. Dehradun 2. Almora 3. Nainital 4. Garhwal 5. Tehri-Garhwal	10.20	'E'	Indian Oilseed Committee's share Rs. 10,15,400.
2.	Sisal Cultivation	1. Dehradun 2. Almora 3. Nainital 4. Garhwal 5. Tehri-Garhwal	0.40	'F'	Staff recommended for Castor plantation Scheme will look after this scheme also. Includes subsidy of Rs. 12,000.
3.	Establishment of Regional Research Station.	Do.	5.51	'G'	
4.	Development of Seed Multiplication.	Do.	36.24	'H'	Includes subsidy of Rs. 1,09,440.
5.	Development of multipurpose seed Farm.	Dehradun	3.37	'I'	
6.	Bench Terracing	1. Dehradun 2. Almora 3. Nainital 4. Garhwal 5. Tehri-Garhwal.	169.90	'J'	
TOTAL RS.			225.62	Lakhs.	

Minor Irrigation

74. The possibility of extending minor irrigation facilities to cover all such areas which can possibly be irrigated from hill streams was examined. It was found that several minor dam surveys have either been recommended or carried out for development of power and irrigation. The Committee recommend that, in order to step up food production, minor irrigation schemes should be spread out in all the deficit areas. Besides State works, there is sufficient scope for minor irrigation schemes in the private sector. For this work, the Committee recommend Taqavi loans etc. as the people in such areas are exceptionally poor and as such they cannot afford any large investment.

75. The Committee are alive to the difficulties facing development programmes of minor irrigation in these difficult areas. The most serious problem is the economic aspect of minor projects in

difficult areas. Maintenance after every monsoon is another problem. A popular local demand which is universal in all areas is for water to be pumped from hill rivers to higher levels for gravitational supply in lower regions. Various forms and types were suggested to the Committee and such proposals were discussed at length with the experts of the State Government. By and large one has to come to the conclusion that in hilly areas economic considerations should be relaxed far beyond the standards which are in vogue for plain area schemes. Schemes of various types of pumped, gravitational and other types of minor irrigation are being recommended. Due to soil erosion these areas are very dry during non-monsoon periods and as such no effective programme of agriculture or horticulture development can be launched with success without provision of adequate irrigation facilities through minor irrigation programmes.

76. Besides State works, there is sufficient scope for minor irrigation schemes in the private sector as well as under 'Grow More Food'. A scheme is under operation in Tehri-Garhwal of allowing subsidy (at the rate of 50% of the cost) on construction of tanks and guls through Gaon Sabhas. This subsidy is allowed on completion of works. As the people in the area are generally poor, it is difficult for them to make any large investments. It is, therefore, recommended that taqavi loan at the rate of Rs. 500 per acre, benefiting for 10,000 acres may be allowed in the five hill districts. The total amount of taqavi required will be Rs. 50 lakhs of which Rs. 10 lakhs may be advanced up to 31-3-1961 and the balance in Third Plan. Provision will also have to be made for allowing subsidy of Rs. 25 lakhs for these works. The subsidy will be shared half and half by the State Government and the Government of India. Rs. 5 lakhs of the subsidy will be required by March, 1961 and the balance in the Third Plan.

77. The entire scheme will involve an expenditure of Rs. 21 lakhs, besides Rs. 75 lakhs required for Taqavi loan and subsidy. Details of expenditure are given in Appendix U.P./'K'.

ANIMAL HUSBANDRY

Scheme for Development of Backward Areas of Hill Districts in Uttar Pradesh.

78. It is felt, that abundance of forest and good grazing areas if scientifically planned can be of great help in increasing Animal Husbandry activities in these areas which will go a long way towards the economic betterment of these areas.

79. A modest beginning towards improved animal husbandry practices in this area was made during the First Five Year Plan by way of introducing an integrated plan for the development of Sheep and wool industry and other livestock in the hills. Under this scheme, a Central Sheep and Wool Research Station was established at Pashulok (Rishikesh), and a Cattle Breeding-cum-Dairy Farm was opened at Kalsi in District Dehra Dun, in addition to starting a number of Sheep Farms, Stud Ram Centres, Stallion Stands, Quarantine Station and Poultry Demonstration Units. Subsequently steps were taken to intensify work in border areas. Thus

a nucleus for the development of Animal Husbandry activities in the backward hill areas has since been created, and it is time that the work is further intensified in the surrounding areas on the basis of experience gained so far.

80. It is, therefore, recommended to take up the following new schemes during the next five years (i.e., 1960-61 to 1964-65):—

1. Cattle Breeding

81. Shortage of good quality bulls is the main handicap in the development of cattle wealth of the State. Systematic and Scientific breeding of cattle is the only possible way to meet this situation. The milk yield of cattle in the hills is appallingly low and the efforts made to increase it by distribution of stud bulls have not given the desired results on account of the inability of people in this area to feed them properly. Bulls of breeds from plains have not thrived well due to inadequate nutrition and improper arrangement and local difficult terrain and climatic conditions. With a view to expanding the cattle breeding activities in the hills and carrying on cattle development work more intensively in selected areas, it is desired to establish:—

- (a) One Artificial Insemination Centre with 10 Sub-centres during 1960-61.
- (b) Seven Cattle Breeding Extension Centres—3 Centres during 1960-61, and the remaining 4 during 1961-62 and 1962-63 at 2 Centres in each year.

82. The A.I. Centre will have 4 bulls for A.I. and there will be 20 bulls in sub-centres for natural services. There is provision in the scheme for feeding of these bulls by giving a subsidy @ Rs. 45 p.m. to the breeder who maintains them. The size of cattle breeding extension centres has been reduced and 10 bulls are proposed to be maintained in each centre in view of the peculiar topography of the area. Full maintenance staff and buildings are provided for looking after the bulls. This as said earlier is essential on account of the poverty of the area. The total cost of the scheme is as follows and the details of expenditure are appended (Appendix—U.P./'L') :—

	Rs.
(a) Cost of One A.I. Centre with 10 Sub-centres	.. .. .. 2,06,300
(b) Cost of 7 Cattle Breeding Extension Centres	.. .. .. 7,00,800
TOTAL	9,07,100

2. Improvement of Sheep & Wool

83. Sheep rearing is the mainstay of fairly large number of villagers in the hill areas specially in the remote regions. The animals maintained by the people are not true to the type. There are at present 21 stud ram centres in the hills for distributing good quality stud rams. The measures so far adopted in this connection are, however, not sufficient to meet the increasing demand of hill people in respect of good stud rams. With a view to upgrade the local stock for meeting the increasing demand of good stud rams, it is

recommended (1) to establish 4 new stud ram centres—2 in 1961-62 and one each in 1962-63 and 1963-64, (2) to improve the condition of 2 of the existing stud ram centres in the hills during 1960-61.

84. To supplement present efforts, it is recommended that 500 sheep, i.e., 400 ewes and 100 rams of Polwarth and Rambouillet breed be imported. Their cost will be about Rs. 4.00 lakhs for which foreign exchange will be required. It may be added that the quota of sheep to be imported may be achieved, 50% in 1960-61 and 50% in 1961-62. Most of the imported sheep will be located at the Departmental Farms and some may be issued in the field where enough spade work has been done and where people are in a position to look after them.

85. The most important aspect of sheep development work is to find out suitable personnel who may be willingly prepared to face the rigours of isolation in far flung areas. These personnel should not only possess training in sheep husbandry but they should also have re-orientation training for cultivating proper approach to the problems in these areas. To meet up this demand, it is proposed that the staff posted at the institutions already established or proposed to be established should be given training at Pashulok Farm. Since no facility of accommodation exists at the Farm, it is imperative to have a hostel for 25 people which is estimated to cost Rs. 0.50 lakhs. The total cost on the items of Sheep and Wool development comes to Rs. 6,20,930 as below :—

Items	Amount Rs.
(a) Establishment of four additional stud ram centres	1,37,930
(b) Improvement of two of the existing stud ram centres	33,000
(c) Import of foreign sheep	4,00,000
(d) Training facilities	50,000
TOTAL	6,20,930

The details of expenditure are shown in Appendix—U.P./'M'.

3. Veterinary Aid

86. Large number of cattle breeders in the hills besides the Gujars migrate during the winter from hills to Bhabar and with the onset of rains they move up to the hills with all their belongings which mainly consists of livestock. So far, not much has been done for these people by way of providing veterinary aid and better breeding facilities. It is, therefore, recommended to provide two Mobile Veterinary Dispensaries well equipped with suitable jeeps, one each in 1960-61 and 1961-62. These units will provide prompt veterinary aid at the farmer's doorstep and the nomadic livestock breeders during their stay in the plains and will also carry on disease control work in the vicinity of motorable roads.

87. Due to peculiar topography and lack of proper means of transport and communication, it is not possible to provide required veterinary aid to the livestock in hilly areas even by establishing number of veterinary hospitals and stockmen dispensaries. It is also not possible to reach the interiors of the region by jeep or to bring

the animals for treatment to the centre. It is, therefore, desired to maintain two mule units to cater veterinary aid in the far inaccessible areas where no communication is otherwise feasible. The first mule unit, equipped with staff, equipment and medicine is recommended to be established in the year 1960-61 and the other in 1962-63.

88. The above recommendation involves an expenditure of Rs. 2,88,200 as below :—

	Rs.
(a) Two Mobile Units for Veterinary aid	2,01,000
(b) Two mule units for Veterinary aid	87,200
	<hr/> 2,88,200

The details of expenditure are appended. (Appendix—U.P./'N').

4. Poultry Development

89. In order to improve the economic condition of the people of this area and the nutritional need of their diets, it is necessary to provide this area with an industry that would require limited investment and offer quick returns. Poultry Development activities, if undertaken in these parts can go a long way in providing the people much needed nutrition and also help to improve their economic conditions. The Committee, therefore, recommend that two poultry extension centres in these areas (one in 1960-61 and the other in 1961-62) may be established. In order to meet the increased demand for birds required for these new centres, it is also recommended to expand the housing and breeding facilities at the State Poultry Farms as well. There is also provision for training of breeders in the Blocks, holding of annual shows and purchase of improved birds from breeders for further distribution. Subsidy has also been provided for giving wire netting and other facilities to breeders. The details of expenditure in the above proposal are given in the enclosed statement (Appendix—U.P./'O') the total estimated cost comes to Rs. 1,47,000 for five years.

5. Development of Fisheries in Kumaon Region

90. The Fisheries of this region comprise of perennial lakes and snow-fed rivers which are in flood during the rains but hold little or no water in their lower reaches during the rest of the year. There are no indigenous fish except the Mahasser in the lakes of Nainital district and trout in Deodital. Obviously the lakes which hold water all the year round have the best potentialities for fisheries Development.

91. To develop the same a pilot scheme as an experimental measure was introduced in this region by importing Mirror Carp from Ootacamand in the year 1947 and subsequently in 1949. Mirror Carp has established itself fairly well in the Kumaon waters particularly in Bhimtal, Nainital, Naukuchia Tal and Sat Tal lakes. Since the beginning was made only on a small scale, the ponds in Bhowali hatchery were deemed sufficient to serve as nurseries but subsequently as the stock was built up nurseries were also established at

Nauldhara and Baijnath. Now with the expanded programme in respect of Mirror Carp culture, it has become obligatory to saturate the population of the waters already tackled and to further supplement the breeding in the lakes with the breeding ponds, where selected breeding stock may be stocked for breeding and rectangular ponds for rearing hatcheries to fingerlings. This would help in not only meeting the demand of those interested in Mirror Carp culture but also in rehabilitating other virgin waters having climatic conditions akin to those already tackled.

92. With the above objective in view, the Committee recommend that breeding and rearing ponds close to Bhimtal and Naukuchiatal may be constructed as per details below :—

(1) *Bhimtal*

- (a) One circular breeding pond 100 ft. diameter and 7 ft. deep.
- (b) One rectangular rearing pond 100' \times 50' \times 5' and drainable with a catch basin at bottom.

(2) *Naukuchiatal*

- (a) One circular breeding pond 100' in diameter and 7' deep.
- (b) One rectangular rearing pond 100' \times 50' \times 5' and drainable with a catch basin at the bottom.

93. It is also recommended that one Supervisor in the scale of Rs. 75-5-120 and two Fishermen in the scale of Rs. 30-1½-60/2½-65 p.m. each, at each of the breeding rectangular rearing pond may be provided to look after the departmental activities there. The total cost of the scheme comes to Rs. 78,650 details of which are given in the enclosed statement (Appendix—U.P./'P').

Financial Implications

94. Total cost of the scheme for five years comes to Rs. 20,41,880 (Rs. 8,98,480 Recurring and Rs. 11,43,400 Non-recurring) of which the estimated expenditure for the first year (1960-61) amounts to Rs. 6,56,107 (Rs. 83,807 Recurring and Rs. 5,72,300 Non-recurring) as per details given below :—

Item	Total cost for five years		Estimated Expenditure for 1960-61	
	Rec.	Non-Rec.	Rec.	Non-Rec.
1. Cattle Breeding	5,25,200	3,81,900	54,700	1,89,100
2. Improvement of Sheep & Wool ..	69,930	5,51,000	—	2,83,000
3. Veterinary Aid	2,22,200	66,000	20,800	33,000
4. Poultry Development	36,500	1,10,500	3,370	50,200
Total Animal Husbandry Scheme ..	8,53,830	11,09,400	78,870	5,55,300
5. Development of Fisheries	44,650	34,000	4,937	17,000
GRAND TOTAL	8,98,480	11,43,400	83,807	5,72,300

HORTICULTURE

95. Development of horticulture is one of the most important programmes of development in the Agriculture Sector. Efforts are being made by the State Government to co-ordinate horticulture development with road construction. This should become an established policy as outlined in the General Report of the Committee. The State P.W.D. have prepared a master plan of road development for 20 years and horticultural development will follow the line of road construction to avoid any marketing bottlenecks when the orchards start fruiting.

96. Generally speaking, development of intensified cultivation of foodgrain crops in valley areas, stone fruits in medium altitudes and apples and potatoes in higher regions would best serve as general development pattern for most areas. It is felt that mangoes can be popularised in valleys situated up to an altitude of 3,000 ft. These valleys should be broad enough to escape frost. As the crops in these areas would mature in August-September-October when crops in the plains would be over, continuous supply of mangoes can be ensured to the plains up to October.

97. The only apprehension which can arise while recommending rapid horticultural development programme is the fact that local holdings are very small and have poor soil potency. As such it may not be practicable to expect a majority of cultivators, who are already on the brink of semi-starvation, to wait for 4-5 years before the fruit trees commence providing them with results unless some other method is adopted. It may be possible for this difficulty to be overcome with loan schemes with terms more liberal than those offered at present. But it is felt that the burden of unproductive credit used for their maintenance may prove to be very heavy. It should be possible to grow certain crops like potatoes even during the period the fruit plants are growing in the field. Efforts to find out other crops which can be raised in this manner may also be made. The work relating to the establishment of nurseries has already been taken up under the Indo-Tibetan Border Development Scheme. For the development of horticulture, the following action is recommended :—

- (i) Grants of loans for laying orchards with provision of subsidy for construction of boulder walls. (The possibilities of development of Rambans and Cactus fencing are also being examined by the State Government).
- (ii) Organisation of Marketing and Transport Societies.
- (iii) Subsidy on transport of plants and seedlings in the inaccessible areas.
- (iv) Organisation of Fruit Preservation and Canning Centres and establishment of small Cooperative Canning Factories on the model of Ramgarh Factory.
- (v) Establishment of Plant Protection Units.

Delay in Transit of Fruits

98. The complaint of the apple-growers of the area regarding the delay in transit is genuine. The matter was taken up with the railway authorities by the State Government and it has now been established that the chief delay occurs at Mathura. The State Government are already taking up the matter with the Central and Western Railway authorities for making suitable arrangements to cut short the delays at this transhipment point. The question of high rate of fare charges by railway out-agency has also been brought to the notice of the railway authorities by the State Government.

Terracing

99. The terracing of fields in most areas is very faulty and is bringing about the cultivators' ruin. It is essential to organise terracing demonstrations in different parts of the area where trained personnel may demonstrate correct and scientific methods. It will be necessary to follow this demonstration up with a subsidy/loan scheme which may encourage and enable cultivators to adopt new terracing methods.

100. Most of the agricultural fields are adjacent to the forest areas and as such programme of well-planned terraces will have to be co-related with that of the afforestation of upper reaches of catchment areas.

Scheme for Expansion of Existing Nurseries and Establishment of New Nurseries.

101. The total area of Kumaon hills is 117.15 lakhs acres, out of which about 19.6 lakhs acres are under cultivation. Further about 6.4 lakhs acres are classed as culturable waste, which could be developed for agri-horticultural purposes. The total area, thus available for agri-horticultural purposes is estimated to be 26.2 lakhs acres. It is estimated that about 1/10th of this total area, i.e., 2.5 lakhs acres could ultimately be developed for horticultral purposes in the four hill districts of Kumaon.

102. About 30,000 acres have already been planted by the end of the third year of the Second Five Year Plan. In order to achieve a target of putting 1.00 lakh acres under fruits by the end of the Third Five Year Plan, it will be necessary to put additional 70,000 acres during the current and coming Third Five Year Plan, for which the State Government shall require about 80.00 lakhs plants after keeping a margin for casualties. The present nurseries are able to produce about 7.5 lakhs plants per year. With a view to meet the increased demand of 27.5 lakhs additional plants, it will be necessary to expand the existing nurseries and establish new nurseries. It is, therefore, recommended to put under nursery, (a) 10 acres of additional area at the State Orchard, Bharsar; (b) 10 acres at Dunagiri Orchard; and (c) 40 acres in existing and two new nurseries in Tehri and Pauri Garhwals.

103. The total cost of the scheme during the year 1960-61 would come to Rs. 2.26 lakhs and during the Third Five Year Plan period Rs. 6.28 lakhs (total Rs. 8.54 lakhs), the details of estimated expenditure are appended (Appendix U.P./'Q'). This scheme will give benefit of increased output of 27.5 lakhs plants.

Scheme for the Development of Bharsar Orchard

104. The State Orchard, Bharsar, having an area of 489.00 acres is situated in the interior of the district of Garhwal, 24 miles away from the District Headquarters—Pauri; the nearest motor-head being at a distance of 21 miles. This area is thus inaccessible and most backward; the people of this area being so poor that they can hardly eat two square meals a day. With a view to improving the economy of that area by increasing horticultural production, and to provide employment to the people, the Uttar Pradesh Government purchased the Bharsar Estate, now called State Orchard, Bharsar, from an Englishman several years ago. So far, due to paucity of funds, it has been possible to establish an orchard only in an area of 127.00 acres with greater emphasis on apple plants—the elevation being 6,000' and 7,000'. If additional funds are made available, it is possible to develop the fruit garden considerably with new plantations in an area of 120 acres.

105. There will be 24,000 fruit plants in the gardens by the end of Third Five Year Plan—12,000 already planted and 12,000 to be planted under the Expansion programme. From the plants when they come to bearing, the State shall be able to have at least 6,000 mds. of fruits. Even if they get only 10 seers fruits per tree, it would give an income of Rs. 1,20,000, calculated at the rate of Rs. 20 a maund. The income would increase in future years, as the plants grow bigger in size. This scheme would not only provide employment to the local people, but would also help in somewhat easing the problem of food production also.

106. As the schemes are to run permanently, and as there are no houses for the members of the staff in the vicinity of the orchard, provision for residential quarters has been made in the schemes. The construction programme has been phased. The financial requirements of the scheme are enclosed. (Appendix—U.P./R').

107. The total of the scheme during 1960-61 will be Rs. 0.73 lakhs and Rs. 4.28 lakhs for the Third Five Year Plan period (Total Rs. 5.01 lakhs).

Scheme for Distribution of Loans in the Five Hill Districts of Uttar Pradesh.

108. The general poverty in the Hills has been a great handicap in expeditious development in the field of horticulture. Since the initial cost of establishing an orchard is rather prohibitive for the ordinary cultivator in the hills, and as the cultivators have to wait for 4 to 5 years before their trees begin to bear fruits, it is necessary that some financial assistance should be given to the cultivators to enable them to meet the cost of fencing, layout, digging of pits, manuring, and irrigation etc. It is, therefore, recommended that loans may be given to these cultivators for the above purpose.

109. The loan should be interest-free for the first five years and recovery should be effected from the 6th year onwards. The loan may bear rate of interest from the 6th year onwards at 4 $\frac{3}{4}$ %, or any rate, which may be prescribed by Government of India.

110. It is, therefore, recommended that Rs. 5 lakhs for five hill districts, and Jaunsar Bewar may be provided during the year 1960-61.

111. During the Third Five Year Plan, it is also recommended that the loan may be given at the same rate, i.e., 5 lakhs per year, which will amount to Rs. 25.00 lakhs during the entire period of Third Five Year Plan. (Total Rs. 30.00 lakhs).

Details are enclosed. (Appendix—U.P./'S').

112. The loan shall be distributed at the rate of Rs. 500 per acre which will cover orchards over 6,000 acres.

Scheme for Vegetable Production on the "Yatra Lines" in Pauri-Garhwal, Tehri-Garhwal and Almora Districts.

113. Pilgrims in large numbers and from all parts of India, as well as some visitors from foreign countries, visit Badrinathji and Kedarnathji in Pauri-Garhwal, Gangotri and Jamnotri in Tehri-Garhwal, and Kailash and Pindari in Almora Districts every year. These Yatrees and visitors face considerable difficulties in getting fresh vegetables throughout their journeys on these routes. In view of this problem, the Committee recommend that a 'Vegetable Production Scheme' may be started. This scheme, if implemented, will not only serve the Yatrees and visitors with vegetables, but would also help in improving the economic condition of the people by way of more income from vegetables, which they would start growing after seeing actual vegetable growing demonstrations, and the benefits of the scheme.

114. The working of the scheme will be (1) distribution of vegetable seeds on 50% subsidised rates to the villagers, and technical guidance including plant protection measures in vegetable growing and (2) maintenance of vegetable growing demonstration plots on the fields of local cultivators near each centre. It is intended to have 24 centres in all the three districts. At each centre, there will be one gardener (skilled Mali). The work of these gardeners will be supervised by one Supervisor in each district. The entire staff of the scheme will be placed under the Senior Horticulture Inspector of the district. The demonstration plots will serve as models for the cultivators for inducing them to take up vegetable growing.

115. In order to make the private cultivators agreeable to locate the demonstration plots in his fields, some incentives will have to be provided. These will include free supply of vegetable seed and fertilisers for the demonstration plots. In addition to this, he will be provided with labour for getting all operations carried out in the plots at the appropriate time. The cost of the fertilisers and labour for each demonstration plot will not exceed Rs. 25. There will be two such demonstration plots under each centre making a total of 48 plots. The total cost of the scheme for 1960-61 comes to Rs. 0.31 lakhs shown in the attached statement. The budget requirements for the Third Five Year Plan period are also enclosed. The total cost in the Third Five Year Plan comes to Rs. 1.57 lakhs. (Total Rs. 1.88 lakhs—Appendix—U.P./'T').

Scheme for Marketing of Fruits and Vegetables in the Hills of U.P.

116. It is well known that a grower of fruits and vegetables receives a small share of the price obtained by these commodities in the consuming markets. A large profit is earned by the contractors and middle men who collect the produce and market it. In order to bring to the grower more profitable return, it is recommended to organise the growers into Cooperative Societies and also set up cooperative marketing organisations. The scheme presented herewith consists essentially of two parts:—

- (1) Organisation of growers into primary Cooperative Societies.
- (2) Organisation of Marketing Cooperatives to be associated with the Growers' Cooperatives.

Organisation of Growers' Cooperatives.—In order to encourage formation of Growers' Cooperatives, it is recommended that the loans which are distributed annually should be advanced only to members of Growers' Cooperatives. In the first instance, primary growers cooperative societies will be formed, which will be affiliated to the Apex Marketing Societies in each district.

117. The Apex Marketing Societies will arrange to (a) grade the fruits, (b) transport to convenient rail-heads and/or markets and (c) market the produce at suitable centres.

- (a) *Grading* : The Apex Cooperative Societies will be given assistance to collect the fruit from individual members of the Primary Societies; the fruit so collected would be as per 'Agmark' grading scheme of the Agricultural Marketing Adviser to the Government of India. The cost of grading scheme (Rs. 8,000) and contingencies (Rs. 3,000) would be provided to be met by the State Government.
- (b) The transport charges on road especially in the Hill Districts are very high. This is largely responsible for increasing the price of fruit in consumers' market. In order to reduce the price of transportation on roads from growing centres to the rail-heads, it is intended to subsidise the cost on transportation by providing each Apex Society with a truck at 50% cost which would be subsidised by the Government.
- (c) It is necessary to bring to the notice of the public the benefits of graded fruits and also to bring larger benefits to the growers of quality produce. Such graded produce could be sold in the consuming markets like Bombay, Calcutta, Delhi, Lucknow and Kanpur by opening Sale Depots. It is recommended to advance a 50% subsidy to the Apex Co-operative Societies towards the salary of the staff and rent of the shops. It is also necessary to grant Rs. 3,000 per shop to enable the Societies to popularise sales through advertisement and publicity. The total estimated expenditure will be Rs. 6.27 lakhs as per statements enclosed. (Appendix—U.P./'U').

118. The total expenditure on the various schemes recommended by the Committee comes to Rs. 51.70 lakhs. The expenditure classified under different heads is as under :—

Name of the Scheme	District to which it concerns	Outlay in lakhs	Details in appendix No. U.P.	Remarks
1. Expansion of existing nurseries and establishment of new nurseries.	1. Almora 2. Nainital 3. Garhwal 4. Tehri-Garhwal.	8.54	'Q'	
2. Development of Bharsar Orchard.	1. Garhwal	5.01	'R'	
3. Distribution of loans.	1. Dehradun 2. Almora 3. Nainital 4. Garhwal 5. Tehri-Garhwal.	30.00	'S'	
4. Vegetable production on the Yatra Lines'.	1. Almora 2. Garhwal 3. Tehri-Garhwal	1.88	'T'	Includes subsidy Rs. 0.18 lakhs.
5. Marketing of fruits and vegetables.	1. Dehradun 2. Almora 3. Nainital 4. Garhwal 5. Tehri-Garhwal.	6.27	'U'	Includes subsidy Rs. 1.40 lakhs.
TOTAL . .		51.70		

Sericulture and Mulberry Cultivation

119. A Pilot Project in this connection has been undertaken by the Planning Research and Action Institute. It is felt that local prospects in sericulture and mulberry cultivation on a cottage scale are quite promising.

Mineral and Herbal Resources

120. Kumaon hills are very rich in herbs. About 600 drugs used in the Ayurvedic system are to be found in these hills. It is recommended that a Research Station in Kumaon may be established with a Sub-Station in Dehra Dun or Tehri Garhwal to carry out further researches in the matter. If necessary, these Research Stations may be placed under the Central Drug Research Institute, Lucknow.

121. It would be necessary to increase the cultivation of herbs and medicinal plants and to encourage commercial manufacture of medicines and drugs preferably through Co-operatives.

Scheme for Utilisation of Pine needles and Other Vegetable Fibres in Hill Districts of Uttar Pradesh.

These hill districts abound in many natural resources that can be utilised as raw-material for many industries. Most of these like pine needles, Al, Bhang, Malu, Rambans etc. are lying totally neglected. Fibres rotted out from these raw materials can be brought to various industrial uses. The only cost involved in the procurement of these raw materials is transport charges which is not too

much. The process of manufacture of fibre is rather simple. Fuel for boiling the material is available at almost all the places in the hills.

123. The starting and promotion of this industry would not only mean utilisation of the existing resources but the fibre when utilised properly, would eventually form the basis of a major industry in the hills and would play an important role in the economic uplift of the region. Though unlimited potentialities seem to exist for the development of these fibres, but modest beginning is recommended, the experience of which may serve as a basis for further expansion.

124. In the following plan, therefore, it is intended to start a Small Pilot unit of production with its Centre as Bhowali in Nainital district. Expansion or opening of new centres will depend on the success achieved in this Pilot Unit.

THE PLAN

125. The programme of utilisation of these raw materials can be drawn up in two different stages, viz., (i) Process of converting the raw material into fibre and (ii) Process of spinning the fibre into yarn and weaving fabric thereof. Spinning and weaving would be taken up by the Hills Wool Scheme while the conversion of Raw material into fibre will be done in this Pilot Project. The Project will comprise of a Central Workshop where machines, needed for processes to be performed mechanically, will be installed. The centre will serve as a nucleus of all activities of the project.

126. The centre will function under a Development Officer (Fibre) who, besides supervising the technical activities of the workshop, will also arrange for the disposal of finished material. The incumbent for this post should be a man of high technical knowledge and fully conversant with the up-to-date methods of production of goods of this nature. Taking into consideration the onerous duties attached to this post, a higher starting pay has been recommended.

127. The total expenditure involved in running the Pilot Centre will come to Rs. 2.16 lakhs in the year 1960-61. (Appendix—U.P./'V').

Scheme for the Development of Pottery Industry in the Hill Districts of Uttar Pradesh.

128. Manufacture of Red-Clay-ware like Kullahar, Surahis etc. by village potters is a very old industry of Uttar Pradesh. These articles are of great antiquity and have now become popular in modern homes and there is a growing demand of white-ware goods which are more strong and durable than Red-Clay goods. The establishment of Pottery Development Centres at Khurja and Chunar and success achieved therein has brightened the prospects of this industry and it is hoped that more centres would soon come up in the State for producing a greater variety of articles that are both useful and decorative.

129. Raw materials which are required in the manufacture of superior type of pottery are found abundantly almost everywhere in the hill district. White clay known as Kameth of which huge deposits are found near Srinagar in district Garhwal have been tried

successfully in the manufacture of pottery goods at Planning Research and Action Institute, Lucknow. Encouraged by the success achieved at the Institute, the Committee recommend that Pottery Centre at Srinagar in District Garhwal and another centre at Bhimtal in district Nainital may be started where necessary equipment for pulverising the raw material will be installed and kiln for firing the fabricated goods will be erected. The centres besides taking up production of goods will also arrange to impart training to the local people in the manufacture of superior type of pottery. It will also provide direct and indirect employment to about 50 persons.

130. This involves an expenditure of Rs. 1.39 lakhs. The details of such expenditure are shown in Appendix U.P./'W'.

Scheme for the Setting up of Common Facilities Service Centres for the Copper Wares Industry at Kharahi (Almora) and Pithoragarh (Almora).

131. Almora is known for a long time for her copper industry. There are about 200 families engaged in Almora proper and another 50 families in Kharai near Bageswar. On account of old methods being pursued by the workers, the industry has not been able to make such headway and the modern technology which is being widely practised at other places has not been introduced in the industry. The result is that the industry has no tendency of further expansion. The workers are illiterate and have no means to purchase modern equipment which, if introduced, can materially improve the prospects of the industry. It is, therefore, recommended that two service Centres may be set up in Almora district. The workers would bring their raw materials as well as semi-finished goods in the Centre and utilise further service at the centre at nominal rates. The Centre would also undertake practical demonstration on modern methods of production so that the workers may be fully convinced of the utility of using better methods and improved equipments.

132. It will not be out of place to mention that copper wares from Almora district find a ready market in Nepal via Jauljibi, Jhullaghat and Tanakpur. The adoption of modern technology will enable the industry to reduce the cost of production and also produce goods to the liking of the consumers. It will also increase the earnings of the workers by 50%.

133. The scheme will involve an expenditure of Rs. 1.21 lakh as per statement attached. (Appendix—U.P./'X').

Scheme for Development of Wood Work Industry in District Garhwal.

134. The manufacture of sports goods was a monopoly of West Punjab. Since partition the industry has developed in Meerut also. Manufacturers at Meerut receive raw materials from Kumaon Hills and Kashmir. Ash, Mulberry, Willow and Kukat trees like Uttis, Khagis and Putli etc. which are used in the manufacture of sports goods, are grown all over district Garhwal.

135. The interior of the district also abounds in walnut and maple which can be utilised in the manufacture of gun butts. Walnut butts which at the moment are lying totally neglected can be profitably utilised in sawn or peeled table top veneering.

136. A special type of wood known as Papri is found abundantly on the higher altitude of 7,000 ft. to 9,000 ft. in the district. The wood is yellowish white, hard, very close and even grained and is used for engraving, turning and carving and also in the manufacture of Survey Instruments. It compares favourably with the Box wood of Europe. The wood in small quantities is exported to plains where it is used in the manufacture of combs. Articles made of this wood would take good lacquer and polish and the wood can well be utilised in the manufacture of Electric Table Lamps, Drawing and Survey Instruments and beautiful carved wooden articles.

137. The exploitation of these resources particularly the varieties that are in the interior of the district had been difficult owing to lack of transport facilities. These difficulties will be reduced when the road construction programme of the Government in this district is complete. Labour in the hills is available at cheap rates. Due to the large number of perennial rivulets, cheap water power is available almost at all the places in the district. Technical hands will also be available from Sports Goods Centre, Nainital. All these factors have brightened the prospects of wood work industry in the district and small Saw Mills to be run with the help of water turbines can be profitably installed at Karna-Prayag. The following works can be taken up in the Centre:—

- (i) Manufacture of Sports goods which can be exported to plains in either finished or semi-finished condition.
- (ii) Cutting of billets of Walnut and Maple into sound hard-wood pieces suitable for manufacture of Gun Butts and household furniture. About half of the weight of timber will be left which would eventually reduce the cost of transport.
- (iii) Sawing small pieces of wood of various sizes from the billets of Papri wood for export to plains in finished or unfinished condition.

138. It is expected that since the industry is established in this area, it will prosper to a great extent and will be able to compete with similar Industry at any place in the country. This scheme will provide direct and indirect employment to about 200 persons.

139. Budget estimates amounting to Rs. 1.02 lakhs are appended. (Appendix—U.P./'Y').

Scheme for Manufacture of Fancy Baskets from Ringal.

140. Ringal is a type of cane similar in appearance to the Bamboo. It grows above 6,000 feet above sea level. There are rich forests in the area round about Pipalkoti. In spite of the fact that this raw material grows so abundantly, there has not been any large-scale exploitation of it so far. Baskets are produced out of Ringal but they need considerable improvement both in design and workmanship. Since the same types of baskets are being manufactured since

a long time it has not been possible to expand the market. On account of the pilgrim route to Kedarnath and Badrinath, thousands of pilgrims visit the district yearly. There is, therefore, considerable scope of expanding this industry by manufacturing fancy articles which can be easily marketed to the pilgrims coming from all over India.

141. It is, therefore, necessary that a Training-cum-Production Centre may be set up at Pipalkoti which is an important centre on the pilgrim route. Other such centres at a later stage can be organised on some such lines at other suitable places in hills.

142. The expenditure of Rs. 0.13 lakhs for the implementation of this scheme is estimated. Details of such expenditure are included in the enclosed statement. (Appendix—U.P./'Z').

Scheme for the Development of the Chelu Oil Industry

143. Chelu is the seed of a fruit similar to apricot. Oil can conveniently be extracted from this seed. The trees bearing this fruit are in abundance in the areas of Rawain Naugaun (Tehri Garhwal) and Jaunsar Bawar (Dehradun). The seed can be collected in the months of May and June. It is estimated that about 3,000 maunds of seed can be collected in a year.

144. The yield of oil that is extracted from the seed by old methods is about 30% of the total content therein and if and when better and modern methods of oil extracting are used better yield will result.

145. The oil at present is used as a substitute of mustard oil for cooking as well as for massage. There is a great possibility of utilising the oil for medicine and manufacture of essential oils after a thorough testing of the same.

146. Following provision has, therefore, been made for payment of loan and grant to the extent of Rs. 14,300 to each of the Cooperative Societies to be formed at Rawain (Tehri Garhwal) and Chakrata in Jaunsar Bawar area of Dehra Dun. (Total Rs. 28,600). This will increase the earnings of the workers by 60%. Details of expenditure are appended. (Appendix—U.P./'ZA').

Scheme for the Development of Chir Tar Industry.

147. Chir Tar is obtained from the highly resinous stum wood (commonly known as 'Chhilka' or Torchwood) of either rejected or fallen trees of *Pinus* and allied species that are found in large quantities in all the hill districts of Kumaon Division.

148. The Tar finds use in belt manufacture, rope manufacture, manufacture of special coatings for marine purposes, impervious and water proofing compounds and rubber industries. It is also a source of medicinal and antiseptic products like creosote, spirit of tar, rectified oil, etc. Almost all the present requirement of the Pine tar is imported. Its full requirement, a few years ago, was estimated at about 600 tons. With the development of various industries the demand has considerably increased in recent years and the imposition of the restrictions on imports has considerably increased the scope of the industry. The industry will provide employment both

in the collection of stumps as well as the manufacture of Tar and allied products.

149. The industry can be best run through cooperative societies as it would be the best means for the collection of raw material which is available in the forests. Provision has, therefore, been made for the payment of loans and grants to the extent of Rs. 80,000 for four cooperative societies in each of the four districts during the year 1959-60.

150. The establishment of this industry would provide direct and indirect employment to about 1,000 people and will also help in the saving of foreign exchange. It will increase the present earnings of workers by 100%.

Scheme for Date Palm Product' Centre in Kumaon Hills

151. As a result of a survey conducted by the Palm Gur Development Officer of Date Palm Population in Almora district, it was estimated that there are 6,000 date palm trees at Bamsao and 4,000 trees at Kosi (Kathyari) in Almora district. At present, this palm population is not being utilised.

152. With a view to utilising these palm trees and convert the juice of date palms i.e. Neera into Jaggery, Sugar, Syrup and other products and to make use of date palm leaves and fibres for manufacture of ropes, mats, matting baskets etc., it is recommended that two date palm products centres may be started at the following two places during the next financial year, i.e., 1960-61.

- (1) Bamsao
- (2) Kosi (Kathyari).

153. There is practically no sugarcane growth in the hills and hence all the sugar supply to the Kumaon division is from the sugar factories of the plains. Date palm sugar industry is expected to meet part of the requirement of the hill area in the matter of sugar supply in the course of a few years.

154. This scheme will involve an expenditure of Rs. 0.07 lakh, the details of which are appended (Appendix—U.P./'ZB').

Scheme for the Manufacture of Plaster of Paris from Gypsum

155. There are well known deposits of Gypsum in Dhapila between Kaladhungi and Nainital. About 37,000 tons of Gypsum is reported to be available at this place. One unit at Rishikesh is already engaged in the manufacture of Plaster of Paris out of Gypsum. The metalled road from Nainital to Kaladhungi is already under construction. There is, therefore, no transport problem for the movement of finished products. Plaster of Paris is used for plastering purposes in Hospitals, making of Toys and Statues, and moulds for pottery. There is, therefore, sufficient scope for manufacture of Plaster of Paris out of Gypsum. A recommendation is being made for the establishment of one plant with a capacity to process 5 tons of Gypsum daily. The unit may be run on cooperative lines.

Scheme for Development of Sericulture Industry in hill districts of Uttar Pradesh

156. There is ample scope for introduction of Sericulture in the Hill Districts of Uttar Pradesh. The climatic and soil conditions are such that the silk products of this area would definitely be of superior quality. The river valleys of these districts resemble Kashmir Valley and the local peasants can pay attention on silk worm rearing during the period they are free from agricultural operations.

157. The basic and fundamental requirement of proper development of Sericulture is the timely and adequate supply of Mulberry leaves as food for silk worms. There is no regular cultivation of Mulberry in these Hills but scattered growth of Mulberry trees known as 'Kemu' is found almost every where. As such, there is a pressing need of good quality of Mulberry plantation on a large scale to cope with the requirement of rearers. The transhipment of improved grafts, seedlings or saplings from Dehradun Nurseries would neither be an economical nor convenient proposition. It is, therefore, recommended that Mulberry plantation through the Forest Department may be raised along the river banks and flat areas around the large Alaknanda and Ganga Valleys in Pauri and Tehri Garhwals and Garur Valleys in Almora district. These valleys are fertile and are well sheltered by mountains all around from the rigours of cold mountain breeze. In district Nainital, advantage can be taken of the plantation done by the forest department in 4,000 acres of land in Tanakpur area.

158. To begin with, Demonstration Centres will be established at Tehri-Garhwal, Srinagar in Pauri-Garhwal, Garur in Almora and Tanakpur in Nainital district. These centres will train people in the technique of silk worm rearing during the years 1960-61 and 1961-62. Simultaneously, cooperative societies of rearers will be formed with a membership of 100 rearers at each place and at the end of 1961-62 the entire organisation will be transferred to these cooperative societies. The members of these cooperatives will be advanced short term loans against share capital and also working capital. These societies will conduct chauki rearing, supply silk worms to its members, purchase the cocoons and arrange for their marketing. The Government will however, assist these cooperatives by giving them proper technical guidance, providing financial assistance as short term loans and offering subsidies in the form of rearing appliances, chauki rearing huts, irrigation facilities, farm equipment and grafts etc.

159. This will increase the earnings of the workers by 60%. The estimated expenditure in this connection would be Rs. 2.75 lakhs for two years (1960-61 and 1961-62), besides Rs. 0.63 lakh (Rs. 0.33 lakh on loan and Rs. 0.30 lakh on subsidy). Details of such expenditure are appended (Appendix-U.P./ZC).

Scheme for Development of Carpet Industry in district Almora

160. The carpet industry is carried on a small scale also in the hill districts of Uttar Pradesh where this trade is functioning in independent and isolated units without any technical guidance. Tibetan multicoloured pilo carpets of handspun yarn are woven in most exquisite designs. The industry if organised properly has good potentialities.

161. It is intended to organise the weavers into cooperatives who will be provided financial assistance for setting up a dye house and purchase of wool etc. The Design Section of the Hill Wool Scheme will evolve suitable designs with traditional Indian and modern motif to suit foreign markets. This will increase the earnings of the workers by 30%.

Estimates of Financial Assistance recommended for Cooperative Societies

	Rs.
1. Assistance for setting up Dye House, Construction for sheds etc. ..	15,000
2. Loan for working capital	10,000
TOTAL ..	25,000

Expansion of hill wool industry in Jaunsar Bawar area of Dehradun district.

162. Jaunsar Bawar Area of Dehradun District is a very backward area and quite a large number of persons in this area have no other alternative source of occupation except agriculture, which does not yield adequate returns.

163. With a view to provide employment, part-time and whole-time, the scheme of wool spinning and weaving was launched in the year 1948 providing for one Weaving Centre and three Spinning Centres. The scheme aimed at:—

- (a) Training people in improved methods of spinning and weaving and dyeing.
- (b) Introduction of improved appliances, for better production.
- (c) Supply of wool at reasonable prices.
- (d) Provision of marketing facilities etc.

164. During the Second Five Year Plan, the scheme was further expanded and 5 more spinning centres were provided. Thus in all one Weaving and 8 Spinning Centres are functioning at present. It is, however, felt that adequate field has not yet been covered and there is still scope for further expansion. There is also a constant demand for more centres in this area.

165. In view of the possibilities, it is recommended that one Training-cum-Production Centre on the lines of other hill districts with 10 spinning centres attached to it may be started. This will help in imparting training to more persons engaged in the trade in this area. It will also provide part-time and whole-time occupation to those who at present eke out a bare existence.

166. It is also felt that proper marketing arrangement should be made for the disposal of finished products at reasonable prices. It is, therefore, desired to start a Sales Depot or a show-room at Dehra Dun, which is the most suitable place for the purpose. This depot is likely to be of great help in popularising and finding out-let for the finished products.

167. It is expected that the scheme when implemented shall provide direct and indirect employment to about 200 persons and an increase in the earnings of about 1,500 spinners by 50% through the use of improved technique of production and improved appliances.

168. This will involve an expenditure of Rs. 3.23 lakhs as per details enclosed (Appendix-UP/"ZD").

Scheme for opening a Cane and Bamboo centre at Kotdwara district Pauri Garhwal

169. Ringal and bamboo is grown in abundance in district Garhwal. It is exported outside the district. The local artisans called "Rurias" are mostly scheduled castes and are ignorant of the latest development in the technique designs and craftsmanship. At present, they prepare their age-old antiquated articles with primitive methods. In order to improve the lots of these cottage workers and also to utilise these forest products to the best advantage of this backward area, the Committee recommend that a Training-cum-Production Centre for preparing Cane and Bamboo furniture, Chicks etc. may be opened. In order to produce artistic goods, it will be necessary to keep the duration of training for one year. After the completion of the training, Cooperative Society of the ex-trainees may be formed. It is understood that the scheme has been forwarded to the All India Handicrafts Board for financial assistance. The detailed budget estimates amounting to Rs. 0.17 lakhs for 1960-61 are enclosed. (Appendix UP/ZE). The earning of the workers will be increased by 50% after getting training in the art in improved methods.

Scheme for the Development of Shawls, Galichas, Asnis and Druggets at Pauri, district Garhwal

170. Wool spinning and weaving is the main cottage industry in the hills. However, at present people cater for their local needs only. In order to enlarge the scope of the woollen industry and improve the condition of cottage workers, it is necessary to divert their attention to the production of goods of artistic designs which may find ready market and thus supplement their income. There is great demand for such articles as Shawls, Galichas, Asnis Druggets etc. Since the raw material is locally available, it is necessary to train the cottage workers in the production of more profitable goods. It is therefore, recommended that a training-cum-production centre for the manufacture of such woollen articles as (i) Shawls, (ii) Galichas, (iii) Asnis, and (iv) Druggets may be opened. Those who are already acquainted with the weaving technique will be given short training for 6 months. During the next six months the trainees will be asked to produce saleable articles under commercial conditions and will be given wages according to their output. After one year a Cooperative Society of the ex-trainees will be formed and they will be expected to undertake commercial operations on their orders. Orders will be procured by the Commercial Traveller who will take with him a sample book together with the prices of each article. Once such a centre is set up, it will be possible to organise a chain of such centres in different places in the District.

171. It is expected that when the scheme is implemented, it will provide direct and indirect employment to about 100 persons and will also increase the earnings of the ex-trainees by 50%.

172. The Scheme has been forwarded to the All India Handicrafts Board for financial assistance. An expenditure of Rs. 0.48 lakh will incurred for the implementation of this scheme. Details of such expenditure are given in Appendix—UP/ZF.

Provision of Industrial Pilot project at Uttar Kashi (Tehri Garhwal)

173. Industrial Pilot Projects are field laboratories where industrial extension may be seen at work from close quarters. New techniques of production, sales and marketing find their application in these projects and experiences gained are projected to other similar areas of the State. Deoband is the only such Pilot Project in the State. The resources and problems of inaccessible areas are quite different from West U.P. and as such the experiences gained in Deoband, do not find any appreciable application in the aforesaid regions.

174. In the light of these considerations the State Coordination Committee under the Chairmanship of the Chief Minister has also recommended that more Industrial Pilot Projects should be established to cater to the peculiar and local regional requirements. Considering the available resources, aptitudes and talents, it has been tentatively decided by the State Government that a Pilot Project may be located in Uttar Kashi (Tehri Garhwal). The Committee support the decision taken in the matter.

175. The budget estimates for the aforesaid Pilot Project has been accordingly formulated for the year 1960-61. These estimates follow a pattern identical to the existing Pilot Project, Deoband.

176. So far as control staff is concerned, this staff besides looking after the schemes of the State Government shall also process the activities of various Boards and Commissions like the Handloom, the Khadi and Village Industries, the Handicrafts, the Small Scale and Silk Fibre Boards, intensively as well as extensively.

177. In this Pilot Project a provision for running of 7 Training-cum-Extension Centres in local specific crafts has been made so as to train the rural artisans in up-to-date techniques of production and marketing. The estimates incorporate the usual feature of the Training-cum-Extension Centres. The establishment of a Multi-purpose Unit is also envisaged. This unit will aim at popularising and demonstrating the use of improved tools and implements for Black Smithy and Carpentry and would be equipped with up-to-date modern and improved machines in order to make up-to-date tools and implements readily available to the small entrepreneurs. Adequate stocks of such tools would be kept at the unit for being sold to bona fide artisans of the locality. In view of the under-developed economic conditions of the artisans, it is recommended that the sales of tools would be effected on 50 : 50 basis.

178. It is expected that the scheme, when implemented, shall provide direct and indirect employment to about 300 persons.

179. The full details of the budget estimates amounting to Rs. 3.11 lakhs are appended (Appendix—UP/ZG).

Scheme for the establishment of Ericulture centres in the hill districts

180. Ericulture Industry is a new industry to the State. Unlike silk worm, eri-worm is hardy and can survive even warmer climates. Its food, castor leaves, can be grown almost anywhere. This industry has great possibilities of giving subsidiary employment to cultivators without any elaborate training or investment.

181. Castor plantation are found in abundance in the hill districts of this State. The prospects of this scheme are accordingly quite bright. It is, therefore, recommended that four centres, one each at Hawalbagh (Almora), Amotha (Garhwal), Deoprayag (Tehri), Garam Pani (Nainital) during 1960-61 may be started. The cost of one Centre will involve Rs. 11,300 and the total cost for four Centres comes to Rs. 45,200 (Appendix—UP/ZH).

182. To sum up, the Committee's recommendations in respect of Industries, if implemented, will involve an expenditure of Rs. 18.39 lakhs as detailed below:—

INDUSTRIES Name of Scheme	District to which it concerns.	Outlay Rs.in lakhs.	Details in Appendix U.P.	Remarks
(1)	(2)	(3)	(4)	(5)
1. Utilisation of Pine needle and other vegetable fibre. -	Nainital	2.16	'V'	
2. Development of pot- tery.	1. Garhwal 2. Nainital	1.39	'W'	
3. Common Facilities Service Centres for Copper Ware In- dustry.	1. Almora	1.21	'X'	
4. Wood work industry	1. Garhwal	1.02	'Y'	
5. Manufacture of Fancy Baskets (Ringal in- dustry)	1. Garhwal	0.13	'Z'	
6. Development of Chelu Oil Industry.	1. Tehri-Garhwal 2. Dehradun	0.29	'ZA'	Loan=Rs. 0.20 Grant= 0.09
				Total Rs. 0.29
7. Development of Chir Tar Industry.	1. Nainital 2. Almora 3. Garhwal 4. Tehri-Garhwal	0.80	—	For loans and grants.
8. Date Palm Products Centre.	1. Almora	0.07	'ZB'	
9. Manufacture of Plaster of Paris.	1. Nainital	0.25		For grants and loans (Rs. 15,000 and Rs. 10,000), respectively.

(1)	(2)	(3)	(4)	(5)
				<i>lakhs</i>
10. Development of Seri-culture Industry	1. Almora 2. Nainital 3. Garhwal 4. Tehri Garhwal	3.38 'ZC'	Includes: Loan Rs. 0.33 Subsidy Rs. 0.30	
				Rs. 0.63
11. Development of Carpet Industry	1. Almora	0.25 —	Assistance = Rs. 15,000 Loan = Rs. 10,000	
12. Expansion of Hill Wool Industry.	1. Dehradun	3.23 'ZD'		
13. Opening of Cane and Bamboo Centre.	1. Garhwal	0.17 'ZE'		
14. Development of Shawls, Galichas etc.	1. Garhwal	0.48 'ZF'		
15. Industrial Pilot Project.	1. Tehri-Garhwal	3.11 'ZG'	Includes Grant in Aid Rs. 0.86 lakhs.	
16. Establishment of Eri-culture Centres.	1. Almora 2. Nainital 3. Garhwal 4. Tehri-Garhwal	0.45 'ZH'		
	Total	18.39		

Soil Conservation and Afforestation

183. Schemes of soil conservation are being co-related with the activities of the Forest Department. Demonstrations with regard to soil conservation which have recently been taken up in Naugaon and Jakhoti blocks of District Tehri-Garhwal should be further extended to other areas on the availability of trained personnel. Planning Research and Action Institute has also started a demonstration project for Erosion Control at Bhimtal in Nainital District. The Government of India Regional, Training Centre, Dehradun, can also be requested to take up projects in Dehradun for demonstration purposes. One Centre for the Training of workers of the hills districts in soil conservation should be established. The cheaper methods of fencing like the growing of cactus and Rambans should be popularised. The construction of spurs to avoid sharp curves of the hill streams should also be undertaken.

184. Large areas in Kumaon Division suffer from serious soil erosion. The stability of agriculture itself in such areas is threatened. The value of afforestation combined with closures to grazing in the prevention of soil erosion has been fully accepted. The Committee recommend that soil conservation works in 3,000 acres per annum in such areas at an estimated cost of Rs. 6 lakhs per annum may be taken up. These works can be started from 1960-61, as enough time is not left now to take up the works during 1959-60. A sum of Rs. 6 lakhs per annum is thus required for 6 years from 1960-61 upto the end of the III Five Year Plan period, i.e., a total amount of Rs. 36 lakhs is required for this scheme. The policy to be adopted will be that such soil conservation-cum-afforestation works will be carried

out on the lands of the beneficiaries, and they will be asked to make a contribution for this purpose in the form of 'Shramdan'.

185. The soil conservation works should be taken up by sub-catchment or catchment and not in a scattered way. In areas with slopes above 20° cultivation should be discouraged. Soil Conservation measures to be adopted for various grades are given below :—

- (a) In areas with slopes from 2 to 10% graded type contour bunding or American channel terracing leading to vegetative waterway, contour farming, rotational cultivation or strip cropping etc.
- (b) In areas with slope from 10 to 16% bench terracing graded of Ooty type of trenching depending upon the soil depth.
- (c) In areas with slopes from 16 to 20% bench terracing of Ooty type or trenching or felling contour depending upon the soil depth.
- (d) Areas above 20% should be reserved for afforestation or pasture development and cultivation should be discouraged.

Under items a, b, & c, contour cultivation combined with other improved agricultural practices recommended for the region should be followed to obtain full return for the money spent. Regarding Item (d), improved forestry and grass land management practices should be followed.



APPENDIX—U.P./'A'

Development of Communications in Inaccessible Areas in Kumaun Bundelkhand Division, Uttar Pradesh

Abstract of List for Roads and Bridges Scheme in Inaccessible Areas for III Five Year Plan

District	Length of road (in miles)	COST IN LAKHS			Break up of expenditure			
		Roads	Bridges	Total	1st year	2nd year	3rd, 4th & 5th year.	
Almora	..	198	101.50	19.50	121.00	12.50	31.50	77.00
Nainital	..	183	93.50	14.50	108.00	11.00	23.50	73.50
Tehri Garhwal	..	296	178.00	15.00	193.00	20.00	44.50	128.50
Garhwal	..	209	132.00	29.50	161.50	14.00	35.50	112.00
Dehradun	..	54	46.00	—	46.00	7.00	14.00	25.00
TOTAL	..	940	551.00	78.50	629.50	64.50	149.00	416.00
Miscellaneous Items in Hill Districts.		75.00	—	75.00	21.00	29.00	25.00	
TOTAL	..	626.00	78.50	704.50	85.50	178.00	441.00	
Contingence & W/C 4 1/2%.				31.70	3.85	8.01	19.84	
Establishment @ 7 1/2%				52.84	6.41	13.35	33.08	
				789.04	95.76	199.36	493.92	

Statement showing Roads and Bridges Recommended for the Inaccessible Areas of Kumaun Division and Dehra Dun Districts Together with an Estimated Expenditure

Name of roads in order of Priority	Approximate Length	Rough cost excluding major bridges	Probable expenditure		
			1st year	2nd year	3rd to 5th year
1	2	3	4	5	6
<i>Almora District</i>					
1. Berinag-Gangolihat Rameshwar.	28	14.00	1.50	3.50	9.00
2. Thal Tejam	15	10.00	1.00	3.00	6.00
3. Dearahat Ganai	16	8.50	1.00	1.50	6.00
4. Almora Podhar Lamgarm Dhunaghat Lohaghat.	48	24.00	2.00	4.00	18.00

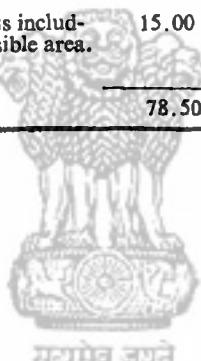
1	2	3	4	5	6
5. Lohaghat-Pulhindola ..	12	6.00	1.00	3.00	2.00
6. Almora-Bhoolaghpat ..	30	15.00	1.50	2.50	11.00
7. Gwaldam Karmi-Dhakuri ..	28	16.00	1.00	4.00	11.00
8. Pithoragarh Jhulaghat ..	16	8.00	1.00	1.00	6.00
TOTAL ..	193	101.50	10.00	22.50	69.00
<i>Nainital District</i>					
1. Kaladhungi Rampur ..	15	6.00	1.50	2.00	2.50
2. Mukteshwar Almora via Jhururi.	8	4.00	1.00	2.00	1.00
3. Talla Ramgarh Almora ..	22	12.00	1.50	2.50	8.00
4. Chaufi Padampuri Khanayun.	28	14.00	1.50	2.50	10.00
5. Betalghat Garjia ..	17	8.50	1.50	2.00	5.00
6. Bijaipur Paharpeni ..	60	30.00	2.00	5.00	23.00
7. Haldwani Ramnagar ..	38	19.00	2.00	3.00	14.00
TOTAL ..	188	93.50	11.00	19.00	63.50
<i>Tehri-Garhwal District</i>					
1. Tehri Deo Prayag ..	40	20.00	2.00	4.00	14.00
2. Chamba Mussoorie ..	37	10.00	2.00	4.50	3.50
3. Bhatwari Ghanesali ..	50	40.00	4.00	10.00	26.00
4. Barkote Yannotri ..	40	30.00	3.00	6.00	21.00
5. Ghareali Chirbatiya Jhan-kni Bheri.	60	36.00	3.50	7.00	25.50
6. Jhanki Tilwara	14	10.00	1.00	2.00	7.00
7. Ghanesali Chutti	20	10.00	1.00	2.00	7.00
8. Nogaon Jarmola Sandharoa ..	35	22.00	2.50	5.00	14.50
TOTAL ..	296	178.00	19.00	40.50	118.50
<i>Pauri Garhwal District</i>					
1. Pauri Deoprayag	24	15.00	1.50	3.00	10.50
2. Bajrao Thalisan Adhai ..	45	30.00	2.00	5.00	23.00
3. Gupta Kashi Gauri Kund ..	24	20.00	1.00	3.00	16.00
4. Satpuli Baijrao	38	19.00	1.50	3.50	14.00
5. Pauri Thalison	45	30.00	3.00	6.00	21.00
6. Gwaldam Karanprayag (Sindi Talwari Tharali).	26	15.00	1.50	4.50	9.00
7. Gumkhali Dwarimal ..	7	3.00	0.50	1.00	1.50
TOTAL ..	209	132.00	11.00	26.00	95.00

1	2	3	4	5	6
Dehra Dun District					
1. Bhandrauli Tuini ..	20	16.00	2.00	4.00	10.00
2. Dakar Chakrata ..		30.00	5.00	10.00	15.00
TOTAL ..	54	46.00	7.00	14.00	25.00
Miscellaneous Items					
(i) Link roads to forest Rest Houses, water posts and troughs, Inspection Houses	L.S.	15.00	2.00	5.00	8.00
(ii) Survey of Roads and Bridges.	L.S.	10.00	4.00	4.00	2.00
(iii) Equipment for implementation of Scheme and Special T. & P.	L.S.	25.00	5.00	10.00	10.00
(iv) Accommodation for staff and Labourers (Hutment type) and Office and Store Buildings Rest House, etc.	L.S.	25.00	10.00	10.00	5.00
TOTAL ..		75.00	21.00	29.00	25.00
Major Bridges as per list enclosed.	10	78.50	6.50	27.00	45.00
TOTAL ..		704.50	85.50	178.00	441.00
Add : Contingences and W.C. Estt. @ 4 1/2%.		31.70	3.85	8.01	19.84
Establishment @ 7 1/2% ..		52.84	6.41	13.35	33.08
TOTAL Cost ..		789.04	95.76	199.36	493.92

MAJOR BRIDGES

District (1)	Name of bridge (2)	Estimated cost (3)	Probable expenditure		
			1st year (4)	2nd year (5)	3rd year (6)
Almora ..	Bridge over Goriganga on Askot Dharchula Road.	5.50	0.50	2.50	3.00
	Bridge over Ramganga on Kapkote Sama Tejam Road.	4.50	1.50	2.50	0.50
	Bridge over Ganges on Bhikia-sen Gamai Road.	5.00	0.50	2.50	1.50
	Bridge over Ramganga Ganai Panwakhal.	4.50	—	1.50	3.00
		19.50.	2.50	9.00	8.00

(1)	(2)	(3)	(4)	(5)	(6)
Nainital	Bridge on Bijaipur Rahar-pani Road.	6.00	—	1.50	4.50
	Bridge on Talla Ramgarh Almora Road.	3.50	—	1.50	2.00
	Garjia Betalghat	5.00	—	1.50	3.50
		14.50	—	4.50	10.00
Garhwal	Joshimath Hanuman	16.00	2.00	4.00	10.00
	Chatti Gwadham Karan	6.00	0.50	2.50	3.00
	Prayag Road Baijrao Thalisan	7.50	0.50	3.00	4.00
		29.50	3.00	9.50	17.00
Tehri	∴ Bridges on roads includ-ed in inaccessible area.	15.00	1.00	4.00	10.00
		78.50	6.50	27.00	45.00



APPENDIX—U.P./"B"

Importance of Roads Selected for the Third Five Year Plan in Inaccessible Areas of Almora District.

Serial No.	Name of Road	Importance of Road
1.	Almora-Paudhar, Lamgarh-Devidhara-Dhunaghat Road.	This road will serve the eastern portion of Almora for the point of view of horticulture and is very good vegetable growing area. This will also connect Almora district Headquarters with Lohaghat Tehsil, 8 miles length from Almora to Pandhar and 13 miles length for Lohaghat to Dhunaghat has already been sanctioned in 2nd Five Year Plan. These length have therefore been excluded.
2.	Beninag Gangolihat .. .	Gangolihat area is an important area of the district but is so far not connected by road. A road from Chow Kosi to Beninag another from Rameshwar to Gangolihat has been sanctioned in II Five Year Plan. The remaining portion from Gangolihat to Beninag has been provided in this plan.
3.	Gwaldam Karmi Dhakuri .. .	It is necessary for the Development of the area with special advantage to sheep breeding industry. This road will be one of the most important one to develop tourist traffic to Gwaldam and Pindari.
4.	Lohaghat-Pul Hindola .. .	It is an important road to connect Almora District with Nepal. The road will pass through rich orchards and will help in the development of horticulture.
5.	Almora-Jhulaghat and Pithoragarh Jhulaghat.	The road is necessary for the general improvement of the region and will also be important from horticulture point of view.
6.	Dwarahat Ganai Road .. .	Dwarahat is a trade centre. This road will connect Ranikhet-Dwarahat Road with Ganai Panuwakhal Road (Inter District Road).
7.	Thal-Tejam .. .	A very important route of Border area, will serve a very well populated area.

Importance of Roads Selected for the Third Five Year Plan in Inaccessible Areas of Nainital Division

Serial No.	Name of Road	Importance of Road
1.	Bijaipur-Paharpuri Road Via Okaldu-nга.	Importance from horticulture point of view. This is very rich potato growing area.
2.	Kaledhungi Banzpur Road	This will be a shortest route to Moradabad. Moreover Nainital Kaladhungi Road is being constructed and Bazpur Dovaha has also been completed. This portion is therefore necessary to be taken up.
3.	Haldwani-Kaladhungi-Ramnagar Road.	Connects the important mandis of Ramnagar and Haldwani.
4.	Talla-Ramgarh-Nathukhan-Ghureri-Almora Road.	Horticultural area, Feeds Agricultural farms.
5.	Betalghat Garjia	Great demand for the road opens the best fertile area of Nainital district.
6.	Muketeshwar-Almora Road via Ghureri.	Horticultural area.
7.	Chaufi-Padampuri-Khansyun ..	Do.

Importance of Roads Selected for the Third Five Year Plan in Inaccessible Areas of Tehri Garhwal District

Serial No.	Name of Road	Importance of the Road
1.	Ghansali Chirbatiya Ghokhni Bheri	This is a pilgrim route and will open the interior. The road partly has been constructed by Sharamdan in a length of 4 miles and 3 bridges of 100 ft. span each will be needed in addition to this. This road will open interior orchard area.
2.	Jhakhani Tilwara	The road has partly been constructed by Sharamdan and will open the Block area of Jakholi one as bridge of 200 ft. span over Mandakini river of Tilwara will be needed which will cost 4 lacs in addition to this.
3.	Tehri Deo Priyag via Khas Patti ..	To open the interior and orchard areas. Shramdan in 8 miles.
4.	Dharasu Yamnotri Road (Dondi Yalgaon to Beed).	Yamnotri is a pilgrim centre and will open interior and orchard and pasture areas.
5.	Chamba Mussoorie (Kanatal Bur-anshkhanda portion).	To open interior and orchard area. This road will be shortest route between Tehri and Mussoorie. The area is beauty centre and tourist would like it.
6.	Nangaon-Purola-Jarmola-Sandhara	One bridge of 140 feet span at Nangaon over Mamuna is needed which will cost 2.3 lacs in addition to this. This road will open and connect Yamuna and tone valleys and will open interior, orchard and pasture areas.
7.	Ghansali Ghutta	To open interior and orchard area.

Importance of Roads Selected for the Third Five Year Plan in Inaccessible Areas of Garhwal Division

Serial No.	Name of Motor Road	Importance of the Road
1.	Satpuli-Baijrao	There is no motor road in this valley thickly populated. Some portion between Satpuli and Rithakhal a distance of 16 miles has been widened by Shramdan. This road will open a fertile valley and will connect Garhwal with Mohan Baijrao—Thalisain Motor Road.
2.	Baijrao via Thalisain to Dewalkhal ..	From Ramnagar to Tiskot a motor road has already been constructed and from Liskote to Baijrao the road is already sanctioned in the scheme of Roads in Backward area. From Baijrao to Thalisain and Dewali Khal a proper road is needed as this area is very much cut off and there is no easy access. Thalisain is block Headquarter and centre of that area. Dewalkhal is on Karanpriyag Dwarhat Motor road and so by constructing this road the whole remote area is served and connected and horticulture development areas of Bharsar etc., are made accessible. This road will need two major bridges.
3.	- Pauri (Mandakhal) Musgali Bharsar and Thalisain.	From Pauri to Mandakhal about 5 miles motor road exists. Musgali is on western Nagar valley not connected with easy communication. Bharsar is a main and very important horticulture centre. Thalisain is the centre of the area and so this road is proposed to connect all these important places to the District Headquarter. This will need one major bridge.
4.	Pauri to Deopriyag	Some portion about 7 miles have been widened by Sharamdan. There is also thickly populated area. The public has been agitating for a long time. It will connect Deopriyag directly which is a pilgrim centre to pauri Headquarter.
5.	Guptakashi to Gauri Kund	Upto Guptakashi the motor road is already under construction. This road will serve the pilgrims going to Kedarnath and also the fruit growing area of Jurena and Phata. From Gaurikund only 7 miles of distance remains to Kedarnath. One major bridge will be needed.
6.	Simali Talwari & connecting Tharali (Karanpriyag Gwaldon Road).	This is a very important route connecting Garhwal with Almora. From Garur to Gwaldon and Talwari Motor Road has been constructed. This road will open Pinder valley and Development Centres at Tharali and Narain Basar. A great public demand prevails for it. Two major bridges will be needed.

Serial No.	Name of Motor Road	Importance of the Road
7. Gumkhali Dwarikhali	Dwarikhali is the Block Headquarter and from Dwarikhali onwards to Silogi, Forest Department is constructing motor road. From Gumkhali to Dwarikhali some work has already been done by Shramdan or contribution basis.



APPENDIX U.P./"C"

List of Motor Roads recommended for construction during the 20 years Master Plan period in Almora District

Serial No.	Name of Road	Approximate length in miles	Approximate cost excluding major bridges in lakhs	Priority for 3rd plan
(1)	(2)	(3)	(4)	(5)
ROADS IN NON BORDER-AREAS				
1.	Almora Paudhar Lamgarh, Devidhura Dhunaghat Road.	50	25.0	
2.	Beninag Ganglihat	12	6.0	
3.	Paharpani Dol. Sahrphatak Ghharonj Road ..	10	5.0	
4.	Link Road to Jageshwar temples	3	1.0	
5.	Someshwar Gorakhina Dewalhat Bageshwar Road.	30	15.0	
6.	Jhusiathora to Chowkoria Dharamgarh	25	12.5	
7.	Kaparkhan Binsar	6	3.0	
8.	Bin sat-Dhaulchhina-Ganai-Sargakhet Jhal tola-Berinag.	55	27.0	
9.	Chharonj Panwanaula	15	7.5	
10.	Someshwar Dwarahat with link road for Dunagiri	26	13.0	
11.	Bageshwar to Rameshwar	55	27.0	
12.	Kapkot Loharkhet	13	5.8	
13.	Gwaldam Kaumi Dhakuri	28	14.0	
14.	Champawat-Tamli	25	12.50	
15.	Champawat Khetikhan via Mayawati	13	6.50	
16.	Lohaghat-Pul Hindola	18	9.00	
17.	Ghat Pancheshwar	15	7.50	
18.	Munakot Shulakat Jhulaghat	18	9.00	
19.	Almora-Panuwanaula-Gangolihat-Pithoragarh-Jhulaghat (Chandak to Manakote already exists).	70	35.00	
20.	Kanalichina-Dewalthal. Thal.	26	13.00	
21.	Dwarahat Ganai Road	16	8.00	

1	2	3	4	5
22.	Hairakhan-Joshura Road (Joshura-Debidhura)	25	12.50	
23.	Paharpani Mornela—remaining similar upto Shaurphata.	5	2.00	
		559	276.8	

ROADS IN BORDER AREAS

1.	Thal-Tejam	..	..	15	10.5
2.	Sama-Gogina-Namik	..	..	30	21.00
3.	Dharchula Tawaghat	..	..	11	7.7
4.	Didihat Munsiyari	..	..	45	31.5
				101	70.70

Detailed list of bridle roads recommended on border areas

Serial No.	Name of the Road	Length in miles	Cost in lakhs Rs.
HIGH ALTITUDE ROADS			
1.	Dung-Untadhura-Jayanti-Kingri Bingri (in connection with the Passes at Untadhura-Jayanti-Kungri Bingri).	12	1.80
2.	Untadhura-Topldunga-Lapthal-Sangchamalla-Balchand- hura.	27	4.105
3.	Khela-Bedang-Dava-Derma	45	5.40
4.	Gunji Kuti-Limpia Pass	25	3.75
5.	Khela-Pangu-Sosa	12	1.80
LOWER REGION ROADS			
6.	Nachani-Mavani-Dawani	20	2.00
7.	Quiti-Barapatta	9	0.90
8.	Bhadiyali-Talla Dummar	6	0.60
9.	Burfu-Mapa-Ghanghar-Panchu-Milam	10	1.00
10.	Namik-Thala-Jaitha-Mathote	30	3.00
11.	Balwakote-Baram	10	1.50
12.	Nyu-Sumdur-Dharati-Gulfeo-Mathokote	30	4.50
		236	30.355
		or say Rs. 30.00 lakhs.	

*List of Major Bridges on the Road Recommended for 20 years
Master Plan for Almora District*

Serial No.	Situation of Bridge	Approx. span ft.	Approx. cost lakh	Remarks
1.	Over Ganga on Askote-Dharchula	225	5.50	The road is already under construction hence bridge is extremely necessary priority-1st
2.	Over Swal river on Almora-Paudhar Lohaghat Road.	130	2.60	Priority-1st.
3.	Over Kosi on Someshwar Bageshwar Rd.	130	3.00	
4.	Over Sarju on Binsar-Dhaulchina Bearinaga Road.	300	6.00	
5.	On Charaonj-Panauanaula Road.	150	3.00	
6.	Over Gagas river on Someshwar Dwarahat Road.	150	3.00	
7.	Over Ramganga on Almora-Pithoragarh Jhulaghat Road.	225	5.50	
8.	Over Ramganga on Kapkots Sama Tajam (Border).	200	4.50	This road is already under construction hence bridge is necessary (1st Priority).
9.	Over Ramganga on Rameshwari Gangolihat Road.	225	5.50	1st Priority.
10.	Over river bhujgarh on Tejam Thal Road (Border).	258	5.50	1st Priority.
11.	Over Jakula on Thal-Tejam Road (Border).	150	3.50	1st Priority.
12.	Over river Sarju on Bageshwar-Askote Road.	180	4.00	The road is already constructed and hence bridge is extremely necessary 1st priority.
13.	Over Ramganga on Almora Gangolihat: Jhulaghat Road.	200	4.50	1st Priority.
	TOTAL ..		<u>56.10</u>	

say Rs. 56.00 lakhs.

**LIST OF MOTOR ROADS RECOMMENDED FOR CONSTRUCTION
DURING 20 YEARS MASTER PLAN IN NAINITAL DIVISION**

Sl. No.	Name of Road	Length	Miles	Approx. cost in lakhs excluding major Bridges
1.	Bajaipur Pharapuri Road via Okal dunga	.. .. ..	50	30.00
2.	Khbadhungi Baspur Road	.. .. ..	13	6.50
3.	Haldwani Tankapur Road	.. .. ..	46	23.00
4.	Baspur Lakhua via Cullarbhoj	.. .. ..	20	10.00
5.	Haldwani Kaladhungi Ramnagar	.. .. ..	23	11.5
6.	Ramnagar Laldhang	.. .. ..	15	7.5
7.	Sitarganj Chorgalia	.. .. ..	11	5.5
8.	Sitarganj Amaria	.. .. ..	5	2.5
9.	Talla Ramgarh Nathukhan Ghurari Almora Road (22 miles in Nainital distt.)	.. .. ..	28	14.0
10.	Betalghat Garjia	.. .. ..	17	8.5
11.	Bhatranjthan Betalghat Road	.. .. ..	10	5.0
12.	Mukteshwar Almora Road via Ghurari	.. .. ..	8	4.0
13.	Kakrighat Sitlakhet	.. .. ..	17	8.5
14.	Chaufi Paharpri (Padampuri Managher)	.. .. ..	12	5.0
15.	Chaufi Padampuri Khansum	.. .. ..	28	14.0
16.	Okhaldhungi Halyari Tal Binolia	.. .. ..	20	10.0
17.	Hirakhan Jyoshura Road	.. .. ..	26	12.5
			349	178.0

**LIST OF MAJOR BRIDGES OF THE ROADS RECOMMENDED FOR
20 YEARS MASTER PLAN FOR NAINITAL DIVISION**

Sl. No. (1)	Name of Bridge of Location (2)	Span (3)	Approx. cost in lakhs (4)
<i>Nainital District</i>			
1.	Over Gaula river near Haldwani on Bijaipur Paharpani Road	800'	10.00
2.	Over Loghar River near Hirakhan on Bijaipur Paharpani Road	300'	4.00
3.	Over Gaula River Near Sauni in Bijaipur Paharpani Road	150'	2.00
4.	Over Kosi River on Kaladhungi Ramnagar Road	400'	6.00

	2	3	4
5. Over Ramgarh River in Talla Ramgarh Ramgarh	100'	1.5
6. Over Kosi River near Ghurari on Talla Ramgarh Ghurari Road	150'	2.00
7. Over Kosi at Gurjia on Betalghat Gurjia Road	200'	3.00
8. At Betalghat on Betalghat Parjia Road	150'	2.00
9. Over Kosi River in Sitliakhet Kakri-Ghat Road near Kakrihat	200'	3.00
10. Construction of a bridge over Kosi near Kumaria	200'	1.5
11. Suspension bridge between Chaur-lakh and Nai	100'	0.60
12. Pedestrian bridge over river Mandhaur on patlot Medon Road	—	0.80
			36.40
<i>Almora District</i>			
1. 2 Major Bridges in Dwarahat Ganai Road	—	3.00
			39.40
TOTAL FOR 4 DIVISION			

Sl. No. (1)	Name of Road (2)	Length (3)	Cost in lakhs (4)
		Miles	
1. Const. of Motor Road from Bhatwari to Gangatri	..	44	62.00
2. Do. Bhatwari to Budhkedar	..	42	25.20
3. Do. Budhkedar to Gansali	..	18	26.00
4. Do. Ghansali Chirbatiya Jhakhani Sheri	60	36.00
5. Do. Jhakhani Tilwara	14	7.00
6. Do. Lambgaon Mukham	..	10	6.00
7. Do. Lambgaon Pratap Nagar Tehri	28	16.80
8. Do. Lambgaon Block Pass	..	28	16.80
9. Do. Lambgaon Uttarkashi	..	30	18.00
10. Do. Nagun Mukhama	24	14.00
11. Do. Kirtinagar Chirabatiya	..	26	15.50
12. Do. Tehri Deo priyag via Khat Patti	40	20.00
13. Do. Tehri Deopriyag on right bank of Bhagirathi	..	40	27.00
14. Do. Dhrasu- Yamotri road (Dundi Yalgaon to Beef)	40	20.00

(1)	(2)	(3)	(4)
15.	Const. of Motor Road from Chamba Mussoorie (Kanutel Buranshkanda Portion) ..	Miles 13	6.50
16.	Do. Nangaon-Purela-Jarmola Sandhara	35	21.30
17.	Do. Tuni Naitwar	20	10.00
18.	Do. Uttar Kashi Agrea Dodital (Gangoridagora)	9	5.40
19.	Do. Chamba Pujargaon Maldeota Portion of Tehri Dehradun Road	40	20.00
20.	Do. Pujargaon Kaddukhal	10	5.00
21.	Do. Bari Nakuri	10	6.00
22.	Do. Dhamelti Pari	40	20.00
23.	Do. Maugaon Mussoorie via Kandhari That & Magra	40	20.00
24.	Do. Ghansali Ghutta	20	10.00
25.	Do. Badiyargad Jakhini	25	15.00
26.	Do. Bhaldiyana Thangdhar	20	10.00
		726	459.50

LIST OF MAJOR BRIDGES TO BE CONSTRUCTED ON MOTOR ROADS INCLUDED IN MASTER PLAN FOR 20 YEARS IN TEHRI GARHWAL DISTT.

Sl. No.	Name of Bridges	Approx. Span	Approx. cost in lakhs	Remarks
1.	Bridge over Janhi at Bhaironghati on Bhatwari-Gangotri Road ..	300'	7.50	These bridges are not included in the road projects as they are major bridges.
2.	Bridge over Bhagirathi at Malla on Bhatwari Rudhakedar Road	100'	2.00	
3.	Bridge over Balganga at Budhakedar on Budhakedar Ghansali Road	200'	4.00	
4.	Bridge over Bhilangana at Ghansali on Budhakedar Ghansali Road	200'	4.00	
5.	Bridge over Nailchamiged on Ghansali Chirbatia Bhiri Road	100'	2.00	
6.	Bridge over lasterged near Panjana on Ghansali Chirbatia Bhiri Road ..	100'	2.00	
7.	Bridge over Mandakiniat Bhiri on Ghansali Chirbatia Bhiri Road	100'	2.00	
8.	Bridge over Mandakani at Tilwara on Tilwara-Jakhani Road	200'	4.00	
9.	Bridge over Jalkur at Seea on Lambgaon Mukhem Road	100'	2.00	

Sl. No.	Name of Bridges	Approx. Span	Approx. cost in lakh	Remarks
10.	Bridge over Bhilangana at Tehri on Lambgaon Tehri Road	200	4.00	
11.	Bridge over Bhagirathi at Uttar-Kashi on Lambgaon Uttarkashi Road	300'	6.00	
12.	Bridge over Bhagirathi at Nagun on Nagun Mukhem Road	200	4.00	
13.	Bridge over Yamuna at Naugaon on Naugaon Purola, Jarmola Road	140'	2.80	
14.	Bridge over Aglargad at Thatyur on Maugaon Mussoorie Road	100'	2.00	
TOTAL ..			48.30	

LIST OF BRIDGE ROADS IN BORDER AREA IN TEHRI GARHWAL DISTT. TO BE CONSTRUCTED IN 20 YEARS MASTER PLAN

Sl. No.	Name of Road	Approx. Length in miles	Approx. cost in lakhs	Remarks
1.	Agora to Dodilal	12	1.20	
2.	Bhankoli to Bhatwari	15	1.50	
3.	Bankoli to Khasti	18	1.80	
		45	4.50	

MOTOR ROADS FOR 20 YEARS MASTER PLAN IN GARHWAL DIVISION

Sl. No.	Name of Motor Road	Length in miles (3)	Approximate cost in lakhs (4)
(1)	(2)		
1.	Dogadda to Durga Devi (Mehalchauri)	52	20.0
2.	Nainidanda to Khadrasea	15	9.0
3.	Satpuli-Bajirao	38	19.0
4.	Marora Byasghat	9	5.0
5.	Nalekhal to Lachamanjhula (Portion of Deogadda Lachman Jhula Road)	45	25.0
6.	Lansdown to Rikhinikhal	30	18.0

1	2	3	4
7.	Baijrao Via Thalisain to Dewalkhal	45	30.0
8.	Pauri (Handakhal) Musagali Bharsar and Thalisain	45	30.0
9.	Pauri to Deopriyag	24	10.0
10.	Guptakashi to Gauri Kund	24	20.0
11.	Kakargad Okhimath Chamoli	40	25.0
12.	Bhiri Pakhari Nand-Priyag	35	20.0
13.	Byasghat to Deopriyag	11	6.0
14.	Simli Talwari and Connecting Tharali (Karanpriyag Gwadon Road)	26	20.0
15.	Tharali Nandkeshari Dewald Mundoli	20	14.0
16.	Nand Prayag Ghat Tharali	49	25.0
17.	Birhi to Gana Lake	10	6.0
18.	Pudrapriyag to Khirasoo	30	20.0
19.	Santudhar Musagali Paithani	51	40.0
20.	Pudrapriyag to Mohankhal	30	18.0
21.	Kotdwara, Kanwa Ashram Paukhal	18	9.0
22.	Laldhungi Kotdwara Haridwar	74	40.0
23.	Gumkhal Dwarikhal	7	3.0
24.	Joshinath to Suraintheta (Bordar area)	20	20.0
25.	Joshimath to Hanuman chati (Joshimath Badrinath route) (Border area)	25	25.0
26.	Govindghat to Gangaria (Border area)	12	8.0
		785	485.0

BRIDGE ROADS IN BORDER AREA IN GARHWAL DISTRICT

Sl. No.	Name of Road	Length in miles	Approximate cost in lakhs	Priority
1.	Ghat Ramani Quarry pass Tepoban (Reconstruction)	24	1.50	
2.	Quarry pass to Joshimath	15	1.50	
3.	Gangaria to valley of flowers	4	.40	
4.	Gangaria to Hemaund (Lokle pall)	5	0.75	
		48	4.15	

LIST OF MOTOR ROAD, BRIDGES IN GARHWAL DURING 20 YEARS
MASTER PLAN

Sl. No.	Name of Bridge	Nos.	Cost in lakhs
			Rs.
1.	Jishimath Hanumanahati 4 Nos. Bridge	4	16.0
2.	Bajrao Thalisun Dewleldwal	3	7.5
3.	Santudhar Masagali Paithan Karanprayag	2	6.0
4.	Buri Nandprayag	1	3.0
5.	Pandukeshwar Gangariaya	1	3.0
6.	Degadda Durgadevi	1	3.5
7.	Joshimath Suraithola	1	2.5
8.	Sunali Tharali Motor Road	2	6.0
9.	Nandprayag Tharali	1	2.5
10.	Guptakashi Gaumikuni	1	2.5
11.	Kakaragad Okhimith Ghamili	1	5.0
12.	Nainidanda Khadracea	1	2.5
13.	Laldhuni Kotiwara Hardwar over Kanganga	1	5.5
			65.5

सत्यमेव जयते

APPENDIX—U.P./D'

SCHEME FOR CASTOR PLANTATION IN HILL AREAS OF U.P.

Proposal for Staff

The following staff will be needed for successful implementation of the scheme :—

1. Senior Oilseeds Inspector (200—15—350)	..	..	..	..	1
2. Oilseeds Inspectors (120—250)	..	..	..	..	5
3. Junior Oilseeds Inspector (75—5—120)	..	..	..	..	60
4. Office Clerk (60—100)	..	..	..	..	1
5. Office Peon	..	..	..	..	1
6. Dak runner	..	..	..	..	1

Besides the above staff for undertaking the development work, it will be necessary to make some provision for the supply of free seed so that the cultivator may have some inducement of taking up the cultivation of castor.



APPENDIX—U.P./"E"
Statement Showing the Details of Expenditure on the Scheme for growing Castor on Hill Slopes in Uttar Pradesh

	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Total
I. Pay of Establishment:							
1. One Senior Oilseeds Inspector in the scale of Rs. 200—15—350	2,000	2,580	2,760	2,940	3,120	3,580	16,980
2. Five Oilseeds Inspectors in the scale of Rs. 120—6—210—10—250	6,000	7,560	7,920	8,280	8,640	9,720	48,150
3. Sixty Junior Oilseeds Inspectors in the scale of Rs. 75—5—120	45,000	57,600	61,200	64,800	68,400	78,000	375,000
4. One office clerk in the scale of Rs. 60—4—100	600	770	820	870	920	970	4,950
5. One Office peon	340	660	670	690	700	770	4,030
6. One Dak Runner } 2	54,140	69,170	73,370	77,580	81,780	93,070	4,49,110
II. Allowances & Honoraria:							
1. Dearness Allowance	20,940	27,220	27,220	27,220	27,220	27,220	1,57,040
2. Travelling Allowance	50,000	50,000	50,000	50,000	50,000	50,000	3,00,000
	70,940	77,220	77,220	77,220	77,220	77,220	4,57,040
III. Contingencies—Recurring :							
1. Office Contingencies	.. .. .. .. ..	4,000	4,000	4,000	4,000	4,000	24,000
2. Publicity & Propaganda	.. .. .. .. ..	4,000	4,000	4,000	4,000	4,000	24,000
3. Plant Protection measures	.. .. .. .. ..	6,000	6,000	6,000	6,000	6,000	36,000
4. Cost of seed and its transport	.. .. .. .. ..	5,250	4,000	4,000	4,000	4,000	25,250
	19,250	18,000	18,000	18,000	18,000	18,000	1,08,000
TOTAL RECURRING ..	1,44,330	1,64,390	1,68,490	1,72,800	1,77,800	1,88,290	10,15,400

APPENDIX—U.P./B—contd.

	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Total
IV. Non-recurring							
Rupee ₹ Type writer	5,000	—	—	5,000
GRAND TOTAL	..	1,49,330	1,64,390	1,68,590	1,72,800	1,77,000	1,88,290
							10,20,400

*Assistance from the Indian Central Oilseeds Committee*

Non-recurring	Recurring	Total	Receipts	Net cost	Share of the Committee	Remarks
\$,000	10,15,400	10,20,400		10,20,400	10,15,400	

APPENDIX—U.P./'F'
Statement Showing the Budget Estimates of the Scheme for Development of Sand Cultivation in the Districts of Uttar Pradesh.

	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Total
Contingencies							
Recruiting	2,000	2,000	2,000	2,000	12,000
Administration & Publicity	1,000	1,000	1,000	1,000	6,000
Subsidy on suckers & bulbils of Agave Sisalana & Agave Maxima	2,000	2,000	2,000	2,000	12,000
Non-recurring	10,000
GRAND TOTAL	..	10,000	10,000	5,000	5,000	5,000	40,000

APPENDIX—U.P./G'
Estimates of the Scheme for the Establishment of Regional Research Station in Hills

	No. of post	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Total
<hr/>								
1. Pay of Officer								
Officer-in-charge Regional Research Station in U.P.A.S. Junior scale (250—850)	1	2,500	3,300	3,600	3,900	4,200	4,875	22,375
Total Pay of Officer	..	2,500	3,300	3,600	3,900	4,200	4,875	22,375
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2. Pay of Establishment								
(1) Senior Research Assistant in S.A.S., Gr. I (200—350)	3	6,000	7,740	8,280	8,820	9,360	10,725	50,925
(2) Field Assistant in S.A.S. Gr. III (75—120)	3	2,250	2,880	3,060	3,240	3,240	3,915	18,765
(3) Clerks (60—3—90—4—110)	2	1,200	1,512	1,584	1,656	1,728	1,950	9,630
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3. At Farm								
Mali (27—4—32)	1	270	330	336	342	348	384	2,070
Ploughmen (27—4—32)	5	1,350	1,650	1,680	1,710	1,740	1,920	10,050
Watchmen (27—4—32)	2	540	660	672	684	696	768	4,020
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4. At Laboratory								
Laboratory Mate (27—4—32)	1	270	330	336	342	348	384	2,010
Laboratory Attendants (27—4—32)	3	810	990	1,008	1,026	1,044	1,152	6,030
Field Attendants (27—4—32)	3	810	990	1,008	1,026	1,044	1,152	6,030
Office Peon (27—4—32)	1	270	330	336	342	348	384	2,010
Orderly Peon (27—4—32)	1	270	330	336	342	348	384	2,010
		14,049	17,742	18,636	19,530	20,424	23,118	1,13,490

Dearness Allowance	..	..	..	..	7,350	8,820	8,820	8,820	8,820	9,555	52,185
Travelling allowance	..	..	..	..	1,500	1,500	1,500	1,500	1,500	1,500	9,000
					8,850	10,320	10,320	10,320	10,320	11,055	61,185

5. Works etc.

(a) Price of Land Terracing & Clearance charges @ 2,000 per acre for 50 acres	..	1,00,000	—	—	—	—	—	—	—	—	1,00,000
(b) Irrigation Facilities 20,000	..	..	20,000	—	—	—	—	—	—	—	20,000
(c) Essential Farm Buildings	..	..	..	—	50,000	—	—	—	—	—	50,000
(d) Laboratory Buildings	..	..	..	25,000	—	—	—	—	—	—	25,000
(e) Residential Quarters for Officer In-charge, Farm Superintendent, Clerk, Research Assistant etc.	..	..	..	39,000	50,000	—	—	—	—	—	89,000
				1,84,000	1,00,000	—	—	—	—	—	2,84,000

6A. Contingencies

Non-recurring :

(a) 5 pairs of Bullock @ 500 each	..	..	2,500	—	—	—	—	—	—	—	2,500
(b) Implements etc.	..	..	..	2,500	—	—	—	—	—	—	2,500
(c) Laboratory equipments	..	..	..	5,000	10,000	—	—	—	—	—	15,000
(d) Typewriters	..	..	..	1,200	—	—	—	—	—	—	1,200
(e) Furniture	..	..	..	1,000	—	—	—	—	—	—	1,000
				12,200	10,000	—	—	—	—	—	22,200

APPENDIX--U.P./G--contd.

	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	Total
6. B. Contingencies							
Recurring							
(a) For Farms	6,000	6,000	6,000
(b) For Laboratory	2,000	2,000	2,000
TOTAL RECURRING	..	8,000	8,000	8,000	8,000	8,000	48,000
GRAND TOTAL	..	2,29,590	1,49,362	40,556	41,750	42,944	5,51,250

TOTAL COST OF THE SCHEME : RS. 5,51,250

APPENDIX—U.P./H'

Financial Aspect of the Scheme for the Development of Portfolios in the Inaccessible Areas

Divisional Staff	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66.	Total	
HEADQUARTER STAFF	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
One Asst. Accountant (100—170)	..	1,100	1,296	1,392	1,488	1,584	1,704	8,584
One Senior Clerk (80—140)	..	880	1,032	1,104	1,176	1,248	1,320	6,760
One Junior Clerk (60—110)	..	660	756	792	828	864	946	4,846
One Peon (27—4—32)	..	297	330	336	342	348	354	2,007
Total	..	2,937	3,414	3,624	3,834	4,044	4,324	22,177
<i>Allowances</i>								
D.A.	1x35	..	..	..	385	420	420	420
2x30	660	720	720	720
1x27.50	302.50	330	330	330
C.C.A. 1x1	14	12	12	12
T.A.	500	500	500	500
Total	..	1,858.50	1,982	1,982	1,982	1,982	1,982	11,768.50
<i>Pay of Officer</i>								
One Peon Development Officer Inacces- sible areas (250—800)	..	2,750	3,300	3,600	3,980	4,200	4,500	22,250
	..	2,750	3,300	3,600	3,980	4,200	4,500	22,250

AURANGZEB—U.P./'H—contd.

DISTRICT DEVELOPMENT STAFF*Pay of Establishment*

Four Distt. Potato Dev. Inspectors 1 in
each district (200—350)

Sixteen Hd. Chaudharies (45—2—65—
EB—3—90)

Thirty Kaudars (32—1—37)

Four Clerk-cum-Store-Keeper 1 in each
district (60—110)

Four Dak Runners (27—1—32)

Four Porters (27—1—32)

8,880	10,320	11,040	11,760	12,480	13,200	67,600
7,920	9,024	9,408	9,992	10,176	12,096	58,616
9,504	10,560	10,752	10,944	11,136	11,520	64,416
2,640	3,024	3,168	3,312	3,456	3,888	19,498
1,188	1,320	1,344	1,368	1,392	1,416	8,028
1,188	1,320	1,344	1,368	1,392	1,416	8,028
31,240	35,568	37,056	38,744	40,032	43,530	2,26,176

Allowances

Dearness Allowance 4 x 35

4 x 32.50

8 x 27.50

48 x 27.50

C. C. A. 56 x 1

Total

FARM STAFF*Pay of Establishment*

16 Farm Supdt. (120—250), Gr. II

64 Maliks (27—1—32)

21,120	22,272	23,414	24,566	25,718	26,870	143,960
19,008	21,120	21,504	21,888	22,272	22,656	1,28,448
40,128	43,392	44,918	46,454	47,990	49,526	2,72,408
20,526	22,392	22,392	22,392	22,392	22,392	1,32,486

APPENDIX.—U. P./'H'—contd.

FARM STAFF—contd.

Contingencies (Recurring)

10) Office Contingencies

(b) Farm Contingencies including Manures, Labour, Irrigation, Up-keep of bullock etc. @ Rs 600 per acre -

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48,000
48,000
8,000
8,000
8,000
8,000
8,000
8,000

(b) Office rent for District P.D.I.s.
Office @ Rs. 50 per month each
100 p.m.

Contingencies (Non-Recurring)

APPENDIX—U.P./H.—contd.

Pay of Officer	..	..	..	2,750	3,300	3,600	3,900	4,200	4,500	22,250
Pay of Establishment	..	..	..	80,707	89,686	93,256	97,016	1,00,386	1,06,048	5,67,099
Allowances	..	..	..	54,600	59,246	59,246	59,246	59,246	59,246	3,50,830
Contingencies	..	..	..	1,08,300	1,18,840	1,18,840	1,18,840	1,18,840	1,18,840	7,02,500
				2,46,357	2,71,072	2,74,942	2,79,002	2,82,672	2,88,634	16,42,679
<i>Contingencies</i>										
Recurring	..	..	..	2,46,357	2,71,072	2,74,942	2,79,002	2,82,672	2,88,634	16,42,679
Non-Recurring	..	..	..	6,66,200	5,80,000	—	—	—	—	12,46,200
GRAND TOTAL (for four districts)	..	..	..	9,12,557	8,51,072	2,74,942	2,79,002	2,82,672	2,88,634	28,88,879

Expenditure for five districts—Rs. 36.24 lakhs

APPENDIX—U.P. 1¹
Estimate for the Establishment of two Multipurpose Seed Farms

(1)	No. of post (2)	Total						
		Ist year (3)	II (4)	III (5)	IV (6)	V (7)	VI (8)	Total (9)
<i>Pay of Establishment</i>								
1. Horticulture Inspectors in S.A.S., Gr. II (120—250)	1	1,200	1,512	1,584	1,656	1,728	1,950	9,630
2. Supervisors in S.A.S., Group III (75— 5—120)	2	1,500	1,920	2,040	2,160	2,280	2,600	12,500
3. Clerk at Headquarters (60—110)	1	600	756	792	828	864	975	4,815
4. Males (22—4—27) (4 for each Centre)	8	1,760	2,160	2,208	2,256	2,304	2,548	13,236
Total	12	5,060	6,348	6,624	6,900	7,176	8,073	40,181
<i>Allowances and Honoraria</i>								
D.A.	3,640	4,368	4,368	4,368	4,368	4,368	4,732	25,844
T.A.	1,000	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Total	4,640	5,368	5,368	5,368	5,368	5,368	5,732	31,844
<i>Contingencies: Recurring</i>								
Misc. Office Contingencies	250	250	250	250	250	250	250	1,500
Subsidy for transport of Fertilizers and Seeds	8,000	8,000	8,000	8,000	8,000	8,000	8,000	48,000
Farm and Nursery Centre (Seeds Manures,etc.)	12,000	12,000	12,000	12,000	12,000	12,000	12,000	72,000
Total	20,250	20,250	20,250	20,250	20,250	20,250	20,250	121,500

Estimates in connection with the scheme for soil and water conservation

	(1)	1960-61 (2)	1961-62 (3)	1962-63 (4)	1963-64 (5)	1964-65 (6)	1965-66 (7)	Total 1960-66 (8)
I. Pay of Officers								
1. One District Soil Conservation Officer, Class II (250—850)	2,750	3,300	3,600	3,900	4,299	4,500	4,500	22,250
2. Five Assistant Engineers in Class II (250—850)	13,750	16,500	18,000	19,500	21,000	22,500	22,500	1,11,250
	16,500	19,800	21,600	23,400	25,200	27,000	27,000	1,33,500
II. Pay of Establishment								
1. Five Senior Inspectors in S.A.S., Gr. I (200—15—350)	11,000	12,900	13,800	14,700	15,600	16,500	16,500	84,500
2. Ten Inspectors in S.A.S., Gr. II (120—250)	13,200	15,120	15,840	16,560	17,280	18,000	18,000	96,000
3. Fifteen Overseers (120—250) ..	19,800	22,680	23,760	24,840	25,920	27,000	27,000	1,44,000
4. Thirty Five V.L.W.s (75—5—120) ..	28,880	33,600	35,700	37,800	39,900	42,000	42,000	2,17,880
5. Five Asstt. Accountants (100—170)	5,000	6,480	6,960	7,440	7,920	9,100	9,100	42,900
6. Five Accts.-cum-Typist Clerks (60—110)	3,000	3,780	3,960	4,140	4,320	4,875	4,875	24,075
7. Twenty Guards (22— 1 —27)	4,400	5,400	5,520	5,640	5,760	6,370	6,370	33,090
8. Six Orderly Peons (27— 1 —32) ..	1,620	1,980	2,016	2,052	2,088	2,301	2,301	12,057
9. Six Dak Runners (27— 1 —32) ..	1,620	1,980	2,016	2,052	2,088	2,301	2,301	12,057
10 One Clerk (60—110) for Soil	600	626	672	708	744	855	855	4,215

Staff Headquarters

1. One Accountant (150—350) ..	1,500	1,920	2,040	2,160	2,280	2,600	12,500
2. Two Asstt. Accnts. (100—170) ..	2,000	2,592	2,784	2,976	3,168	3,690	17,210
3. Two Accnts. Clerk (60—100) ..	1,200	1,536	1,632	1,728	1,824	2,080	10,000
4. Two Routine Clerks (60—100) ..	1,200	1,536	1,632	1,728	1,824	2,080	10,000
TOTAL ..	95,020	1,12,130	1,18,332	1,24,524	1,30,716	1,39,752	7,20,484

III. Allowances & Honoraria

Dearness Allowance ..	35,240	42,288	42,288	42,288	45,712	2,50,104
Travelling Allowance ..	10,000	10,000	10,000	10,000	10,000	60,000
	45,240	52,288	52,288	52,288	55,712	3,10,104

IV. Contingencies

(i) Recurring :							
Office Contingencies ..	..	..	6,000	6,000	6,000	6,000	36,000
TOTAL : RECURRING ..	1,62,760	1,90,228	1,98,220	2,06,212	2,14,204	2,28,464	12,00,088
(ii) Non-recurring							
Purchase for furniture and Type-writers etc. ..	..	20,000	—	—	—	—	20,000
Total Non-Recurring ..	..	20,000	—	—	—	—	20,000

Contingencies :

Works :							
(2) Loan ..	..	..	13,12,500	13,12,500	13,12,500	13,12,500	78,75,000
(b) Subsidy ..	..	..	13,12,500	13,12,500	13,12,500	13,12,500	78,75,000
	26,25,000	26,25,000	26,25,000	26,25,000	26,25,000	26,25,000	1,57,50,000
TOTAL RECURRING ..	1,82,760	1,90,228	1,98,220	2,06,212	2,14,204	2,28,464	12,20,088
TOTAL Non-Recurring ..	26,45,000	26,25,000	26,25,000	26,25,000	26,25,000	26,25,000	1,57,50,000
GRAND TOTAL ..	28,27,760	28,15,228	28,23,220	28,31,212	28,39,204	28,53,464	1,69,90,088

Statement giving details of Proposed Hydram Scheme and Pumping Scheme to be run by Hydroelectric Power

Serial No.	Name of Scheme	District	Location	Total head to be pumped	Estimated cost	Proposed area in Acres			Cost per acre	Additional foodgrains expected to be produced annually in tons	REMARKS	
						Fruits	Rabi	Kharif				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
*1. Okhlet Ghauma son pump Irrigation scheme.	Garhwal	The scheme is situated near Satpuli town.	Four pumping stations	3,98,800	22	296	295	613	650	130.02	Water will be pumped from 4 stations for irrigation purpose. Hydro-electricity will be generated by this scheme locally for pumping water. Ample discharge is available for generating electricity. Length of power channel = 2 miles. Authorised discharge of power channel = 15 cusecs. Discharge available = 15 cusecs.	
					1.238'						Head available = 250 ft. Installed dumping capacity 7 units of 35 H.P. = 183 K.W. each. Installed capacity of power house = 200 K.W.	
					2.212'						Net Revenue 0.58%	
					3.150'							
					4.150'							



Satyameva Jayate

Statement giving details of Proposed Pumping Scheme to be run by all engines

Statement giving details of gravity channels in the five hills districts of U.P.

Serial No.	Name of Scheme	District	Location	Length in miles			Estimated cost			Proposed area in acres			Cost per acre Rs.	Addl. food-grain expected to be produced annually (tons)	Order of priority
				(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)			
1.	Hill channels in Dehradun Dehradun.		Chakrata area	20-6-330	5,00,000	100	500	500	1,100	550	242.00	1			
2.	Sarora Minor	Sakaili	Gairhwal	Kotdwara from Da-gadda town.	0-4-330	10,000	4	21	21	46	220	9.24	II		
3.	Sari Minor ..	Do.		Situated in Napur Patti Opposite Gauchar.	4-0-0	1,03,000	30	150	150	330	310	66.00	III		
4.	Jogyan Boregaon Minor.	Do.		Situated at 1 mile cost of dagable town.	1-0-0	11,000	3	15	15	33	330	6.60	IV		
5.	Kotibakret Minor	Tehri		Situated at 3 miles from Rajgarhi.	2-1-0	65,000	15	90	90	195	325	39.60	V		

APPENDIX—U.P./'K'—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
6.	Sera Minor ..	Almora	Situated in Patti Malla Salam.	1.4-0	48,000	10	51	69	130	370	26-40	VI	
7.	Naugaon Minor	Do.	Situated in Malla Rith agarh.	2.4-0	80,000	15	86	114	215	390	44-00	VII	
8.	Ganai Minor ..	[Do.]	Situated in Palla Gawar	3.4-0	1,12,000	20	120	160	300	370	61-60	VIII	
9.	Pasalgao Minor	Do.]	"	Malla Chaukot	2-0-0	64,000	15	69	91	175	375	35-20	IX
10.	Khargao Minor	Do.	"	Talla Chaukot	2-0-0	64,000	15	69	91	175	375	35-20	X
11.	Naula Minor ..	Do.	"	Walla Nayee	3-0-0	96,000	20	104	136	260	370	52-80	XI
12.	Katyura Minor	Do.	"	Palla Athagulia	2-4-0	80,000	15	86	114	215	375	44-00	XII
13.	Basena Minor ..	Do.	"	Malla Dera	2-4-0	80,000	15	86	114	215	375	44-00	XIII
14.	Oligaon Minor	Do.	"	Palla Barma	3-0-0	96,000	15	104	136	255	380	52-80	XIV
15.	Sunar Minor ..	Do.	"	Palla Barma	1-0-0	32,000	5	35	45	85	380	17-60	XV
16.	Asethi Minor ..	Do.	"	Walla Gewar	2-0-0	64,000	10	69	91	170	375	35-20	XVI
17.	Nachury Minor	Do.	"	Talla Johar	1-0-0	32,000	5	35	45	85	375	17-60	XVII
18.	Basti Minor ..	Do.	"	Malla Waldor	2-0-0	64,000	10	60	91	179	375	35-20	XVIII
19.	Masheta Mansu	Garhwal	Situated on left bank of western Nayar River and is 21 miles from Sapuli.	4-0-0	1,49,000	15	150	150	315	470	66-00	XIX	
20.	Barket Minor ..	T. Garhwal	Situated in patti Ganjna Kathoor.	3-0-0	96,000	8	96	96	200	480	42-24	XX	
					64-0-0	16,90,000	345	91,96	2,319	4,669	425	973-28	

*Total expenditure Rs. 21 lakhs (page 204-206).

APPENDIX—U.P./L'

(1)	1960-61		1961-62		1962-63		1963-64		1964-65		TOTAL	
	Rec.	Non-Rec.	Rec.	Non-Rec.								
for 9 months	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
ESTABLISHMENT OF ONE A.I. CENTRE WITH 10 SUB-CENTRES												
<i>Pay of Establishment</i>												
One Veterinary Officer (Rs. 200— 15—350).	7,047	—	9,864	—	10,332	—	10,800	—	11,268	—	49,311	—
One Milk Recorder (Rs. 75—5—120)												
One stockman (Rs. 45—2—65—E.B.— 3—80)												
Four Bull attendants (Rs. 22—4—27)												
<i>Allowances & Honoraria</i>												
Cycle allowance to Stockmen @ Rs. 3 p.m. each.	250	—	300	—	300	—	300	—	300	—	1,450	—
Travelling Allowance	..	..	1,500	—	2,000	—	2,000	—	2,000	—	9,500	—
Dearness Allowance ..	..	..	3,300	—	4,350	—	4,350	—	4,600	—	21,200	—
<i>Contingencies for A.I. Centre</i>												
Maintenance of 4 bulls @ Rs. 75 p.m. each.	2,700	—	3,600	—	3,600	—	3,600	—	3,600	—	17,100	—
Cost of a reserved bull for replacement	—	—	800	—	800	—	800	—	800	—	3,200	—
Miscellaneous contingencies ..	500	—	800	—	800	—	800	—	800	—	3,700	—



APPENDIX—U.P./L'—contd.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
ESTABLISHMENT OF ONE A.I. CENTRE													
WITH 10 SUB-CENTRES—contd.													
A.I. equipment including Refrigerators, microscope, Tattooing sets, Milk recording equipment, Safe, Cycles, Petromax, Cattle Crush, Chuff Cutters, etc.	—	12,000	—	—	—	—	—	—	—	—	—	—	12,000
Service Creates .. .. ..	..	2,000	—	—	—	—	—	—	—	—	—	—	2,000
Furniture .. .. ..	..	1,000	—	—	—	—	—	—	—	—	—	—	1,000
Purchase of 4 bulls @ Rs. 800 each	—	3,200	—	—	—	—	—	—	—	—	—	—	3,200
Medicine & Instruments .. ..	..	1,000	—	—	—	—	—	—	—	—	—	—	1,000
<i>Contingencies for A.I. Sub-centres</i>													
Subsidy for maintenance of 20 bulls @ Rs. 45 p.m. each.	8,100	—	10,800	—	10,800	—	10,800	—	10,800	—	—	—	51,300
Cattle shows & rallies .. ..	..	500	—	500	—	500	—	500	—	500	—	—	2,500
Miscellaneous contingencies ..	..	500	—	500	—	500	—	500	—	500	—	—	2,500
Purchase of 20 bulls @ Rs. 800 each	—	16,000	—	—	—	—	—	—	—	—	—	—	16,000
Furniture .. .. ..	..	500	—	—	—	—	—	—	—	—	—	—	500
Castrators .. .. ..	..	800	—	—	—	—	—	—	—	—	—	—	800
Total ..	24,397	36,500	33,514	—	33,982	—	34,700	—	35,168	—	1,61,761	36,500	
<i>Works</i>													
Sheds for bulls at A.I. Centre ..	..	—	8,000	—	—	—	—	—	—	—	—	—	8,000
GRAND TOTAL ..	24,397	44,500	33,514	—	33,982	—	34,700	—	35,168	—	1,61,761	44,500	
											or	1,61,800	
												Rs. 2,06,300	

7 CATTLE BREEDING EXTENSION CENTRES (3 Cattle Breeding Extension Centres to be established in 1960-61 and 2 each in 1961-62 & 1962-63).

Details of Expenditure on Sheep and Wool Development Scheme

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
SHEEP & WOOL DEVELOPMENT SCHEME :												
(Establishment of 4 new stud ram centres (2 centres to be established in 1961-62 and one each in 1962-63 and 1963-64.)												
<i>Pay of Establishment</i>												
4 Stockmen @ Rs. 45-2-65-EB-3-80 p.m. each— one for each centre.	—	—	800	—	1,500	—	2,200	—	2,400	—	6,900	—
4 Master Shepherds @ Rs. 32-1-37 p.m. each—one for each centre.	—	—	600	—	1,200	—	1,500	—	1,600	—	4,900	—
8 Shepherds @ Rs. 22-1/2-27 p.m. each 2 for each centre.	—	—	800	—	1,400	—	2,000	—	2,200	—	6,400	—
<i>Allowances & Honoraria</i>												
Dearness Allowance —	—	—	2,000	—	3,600	—	4,900	—	5,200	—	15,700	—
Fixed T.A. to Stockmen @ Rs. 20 p.m. each.	—	—	360	—	660	—	900	—	960	—	2,880	—
<i>Contingencies</i>												
Feeding charges of rams @ Rs. 1,500 per annum per centre.	—	—	3,000	—	4,500	—	6,000	—	6,000	—	19,500	—
Special drugs for dipping and drenching of sheep @ Rs. 500 per annum per centre.	—	—	1,000	—	1,500	—	2,000	—	2,000	—	6,500	—
Sheep show @ Rs. 250 per centre ..	—	—	500	—	750	—	1,000	—	1,000	—	3,250	—

Miscellaneous contingencies including cultivation charges @ Rs. 300 per centre.	—	—	600	—	900	—	1,200	—	1,200	—	1,200	—	3,900	—
Purchase of 80 rams @ 20 rams for each centre.	—	—	—	—	3,000	—	1,500	—	1,500	—	—	—	—	6,000
Purchase of furniture and equipment @ Rs. 500 per centre.	—	—	—	—	1,000	—	500	—	500	—	—	—	—	2,000
<i>Works</i>														
Construction of sheep pens and residential quarters @ Rs. 15,000/- per centre.	—	—	—	—	30,000	—	15,000	—	15,000	—	—	—	—	60,000
	—	—	9,660	34,000	16,010	17,000	21,700	17,000	22,560	—	69,930	68,000		
IMPROVEMENT OF 2 EXISTING STUD RAM CENTRES														
Purchase of additional rams for proposed centres.	—	—	3,000	—	—	—	—	—	—	—	—	—	—	3,000
Construction of buildings for residential quarters and sheep pens.	—	—	30,000	—	—	—	—	—	—	—	—	—	—	30,000
	—	—	33,000	—	—	—	—	—	—	—	—	—	—	33,000
PURCHASE OF FOREIGN SHEEP														
Construction of Hostel at Pashulok (Debra Dun).	—	—	50,000	—	—	—	—	—	—	—	—	—	—	50,000
GRAND TOTAL	—	—	2,83,000	9,660	2,34,000	16,010	17,000	21,700	17,000	22,560	—	69,930	5,51,000	6,20,930

APPENDIX—U.P./N
Details of Expenditure on Veterinary Aid

VETERINARY AID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2 Mobile Veterinary Dispensaries to be established (one in 1960-61 and the other in 1961-62).													
<i>Pay of Establishment</i>													
2 Veterinary Assistant Surgeons (Rs. 200-15-3-50).	1,800	—	4,380	—	5,340	—	5,700	—	6,080	—	23,300	—	
2 Compounders-cum-Laboratory Assistants (Rs. 45-2-65-E.B.3-80 E.B.4-100).	400	—	970	—	1,150	—	1,200	—	1,250	—	4,970	—	
2 Drivers (45-2-65-E.B.3-80)	400	—	970	—	1,150	—	1,200	—	1,250	—	4,970	—	
2 Cleaners 2 Peons (Rs. 22-1/2-27) ..	400	—	940	—	1,100	—	1,120	—	1,140	—	4,700	—	
<i>Allowances and Honoraria</i>													
Travelling allowance ..	1,500	—	3,300	—	3,300	—	3,300	—	3,300	—	14,700	—	
Dearness Allowance ..	1,300	—	3,100	—	3,500	—	3,500	—	3,500	—	14,900	—	
<i>Contingencies</i>													
Medicines including those for mass dipping and drenching and glass wares etc.	2,000	—	4,000	—	4,000	—	4,000	—	4,000	—	18,000	—	
Miscellaneous contingencies including stationery & postage stamps.	500	—	1,000	—	1,000	—	1,000	—	1,000	—	4,500	—	
Maintenance and running charges of Jeeps.	4,500	—	10,500	—	12,000	—	12,000	—	12,000	—	51,000	—	
Cost of 2 Jeeps with trailers	—	25,000	—	25,000	—	—	—	—	—	—	50,000	—	
Cost of equipments, tents, microscope, post-mortem etc.	—	5,000	—	5,000	—	—	—	—	—	—	10,000	—	
Total	..	..	12,800	30,000	29,160	30,000	32,540	—	33,020	—	33,520	—	1,41,040 60,000
													2,01,040 or 2,01,000

Establishment of 2 Mule Units
(One unit is to be established in 1960-61
and the other in 1962-63).

Pay of Establishment :

Strength at each unit :

One Veterinary Assistant Surgeon (200-15-330).	2,400	—	3,400	—	6,000	—	7,200	—	7,700	—	26,700	—
One stockman (45-2-65-E.B.3-80)	..	..	..	..	..	..	..	..	..	..	..	..
One Attendant (22-1/2-27)	..	..	..	..	..	..	..	..	..	..	..	..

Allowances and Honoraria :

Travelling Allowance	..	..	1,400	—	1,900	—	3,300	—	3,800	—	14,200	—
Dearness allowance ..	..	..	800	—	1,100	—	1,900	—	2,200	—	8,200	—
Contingencies :												
Purchase of equipment, medicines etc.	1,000	—	1,000	—	2,000	—	2,000	—	2,000	—	8,000	—
Feeding of 3 Mules at one Unit @ Rs. 3 per mule per day.	2,400	—	3,200	—	5,600	—	6,400	—	6,500	—	24,100	—
Purchase of 3 Mules for one Unit @ Rs. 1,000 each.	—	—	3,000	—	—	—	3,000	—	—	—	—	6,000

8,000	3,000	10,600	—	18,800	3,000	21,600	—	22,200	—	81,200	6,000
										87,200	
										2,88,200	

GRAND TOTAL VETERI-
NARY AID

APPENDIX—U.P./‘O’

Particulars	1960-61	1961-62	1962-63	1963-64	1964-65	Total
	2	3	4	5	6	7
<i>Establishment of Poultry Extension Centres—</i>						
One in 1960-61 & other in 1961-62						
<i>Pay of Establishment</i>						
1 Poultry Supervisor (75.5-120)	..	700	1,700	2,060	2,180	2,300
1 Poultry Attendant (22-1/2-27 or 27-1/2-32)	230	580	706	718	730	2,964
<i>Allowances and Honoraria</i>						
D.A. ..	..	540	1,260	1,420	1,440	1,440
T.A. ..	..	200	400	400	400	1,800
	1,670	3,940	4,586	4,738	4,870	19,804
					say	19,800
<i>Contingencies—Recurring for Poultry Extension Centres</i>						
1. Cost of feeding of 50 birds ..	..	700	1,600	1,800	1,800	7,700
2. Miscellaneous contingencies ..	..	1,000	2,000	2,000	2,000	9,000
	1,700	3,600	3,800	3,800	3,800	16,700
<i>Contingencies—Non-Recurring for Poultry Farms</i>						
1. Feeding for chicks upto 5 months at Govt. Poultry Farms ..	..	3,000	3,000	—	—	6,000
2. Housing and rearing of chicks @ Rs. 10 per chick—500 chicks ..	..	5,000	5,000	—	—	10,000
	8,000	8,000	—	—	—	16,000

For Intensive Development! Blocks (Recurring)

For Poultry Extension Centres (Non-Recurring)

		Amount in Rs.	Amount in Rs.	Amount in Rs.
1. Cost of Poultry houses and runs @Rs. 2,500 per centre	.. .. .. .. ..	2,500	2,500	—
2. Equipment and furniture @Rs. 1,500 per centre	.. .. .. .. ..	1,500	1,500	—
3. Cost of defertilization plant @ Rs. 1,000 per centre	.. .. .. .. ..	1,000	1,000	—
4. Cost of rearing, brooding and storage cabinet etc	.. .. .. .. ..	10,000	10,000	—
5. Provision for water and electricity facilities @ Rs. 1,000 per centre		1,000	1,000	—
				25,000
				Buildings for office and residences @Rs. 25,000
				25,000
				25,000
				2,000
				20,000
				3,000
				5,000

Works

GRAND TOTAL	53,570.	59,190	11,286	11,438	11,570	<u>1,47,054</u>
Total-Recurring					say	<u>1,47,000</u>
Non-Recurring			49,000			

APPENDIX—U.P./P'
Details of expenditure on Development of Fisheries

APPENDIX—U.P./'Q'

Budget estimate for establishment of 10 acres nurseries each at Bharsar and Dunagiri, in district Pauri-Garhwal and Almora respectively during the year 1960-61

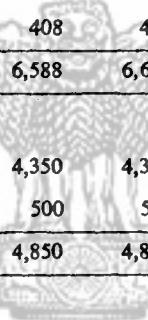
Head of items	Estimates for 1960-61
(a) 10 acres Nursery at Bharsar District Pauri-Garhwal	
1. Pay of Establishment	
One Nursery Supervisor (75-5-120)	825
One Store-keeper, (80-5-100-6-130)	880
Ten Malis (32-1-37)	3,520
One Chaukidar (22 1/2-27 or 27-1/2-32)	242
	<u>5,467</u>
2. Allowances & Honoraria	
Dearness allowance	3,987
Travelling allowance	500
	<u>4,487</u>
3. Contingencies—Recurring	
Cost of seeds, plants, insecticides, fungicides, grafting material, manures, fertilizers, casual labour and other miscellaneous expenditure	10,000
	<u>10,000</u>
4. Contingencies—Non-recurring	
Preparation of land for Nursery	10,000
Tools, implements and spray machines etc.	1,000
Fencing material	3,000
Water tank and pipe line	5,000
	<u>19,000</u>
5. Works	
Construction of tool godown	1,500
Chaukidar and Malis hut	5,000
	<u>6,500</u>
GRAND TOTAL	45,454
(b) Nursery at Dunagiri District, Almora	
Budget—same as above	<u>45,454</u>
TOTAL (a) and (b)	90,900

Detailed budget estimates for the Development and Expansion of estate owned Nurseries during the year 1960-61

Head of items	1960-61
1. Pay of Establishment	
4 posts of Nursery Supervisors 75—120	.. .. .. .. 3,300
20 posts of Malies 32—1—37	.. .. .. .. 7,040
2 posts of Ploughmen 27—½—32	.. .. .. .. 594
2 Assistant Accountants 100—8—140—10—170	.. .. .. .. 2,200
1 Senior Clerk 80—5—100—6—130	.. .. .. .. 880
7 Clerks 60—3—90—4—110	.. .. .. .. 2,640
5 Chaukidars 22—½—27	.. .. .. .. 1,210
TOTAL	17,864
2. Allowances and Honoraria	
Dearness allowance	.. .. .. .. 11,792
T. A. and other allowances	.. .. .. .. 4,000
TOTAL	15,792
3. Contingencies—recurring	
Cost of seeds and plants, manures, fertilizers, insecticides and casual labour etc.	.. .. .. .. 25,000
Misc. contingencies	.. .. .. .. 5,000
TOTAL	30,000
4. Contingencies (Non-recurring)	
Cost of two pairs of bullocks	.. .. .. .. 1,500
Cost of tools and implements	.. .. .. .. 3,000
Cost of fencing and walling at Pauri & Tehri,	.. .. .. .. 5,000
Furniture and fittings	.. .. .. .. 2,000
Installation of small pumping set with pipe line and water tank at Nursery	.. .. .. .. 8,000
Cost of one Buster pump, water tank and pipes, for Bageshwar Nursery	.. .. .. .. 5,000
TOTAL	24,000
5. Works	
Construction of	
Bullock shed	.. .. .. .. .. 6,000
Malies huts	.. .. .. .. .. 25,000
Malies huts at Karmi	.. .. .. .. .. 10,000
Store room at Karmi	.. .. .. .. .. 2,000
Water tank and pipe line at Karmi	.. .. .. .. .. 5,000
TOTAL	48,000
GRAND TOTAL	1,35,656 or say 1,36,000

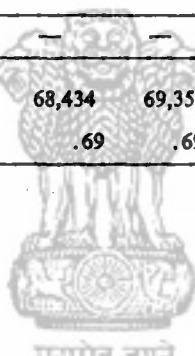
*Budget estimates for establishment of Nursery at Bharsar and Dunagiri—
during IIIrd Five Year Plan*

Head of items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
(a) Establishment of 10 acres Nursery at Bharsar Distt. Pauri Garhwal.						
1. Pay of Establishment						
One Nursery Supervisor (75—5—120)	960	1,020	1,080	1,140	1,200	5,400
One Store-keeper (80—5—100—6—130)	1,020	1,080	1,140	1,200	1,272	5,712
Ten posts of Malies (32—1—37)	3,960	4,080	4,020	4,320	4,440	20,820
One Chaukidar (22—1—27)	396	408	420	432	444	2,100
	6,336	6,588	6,660	7,092	7,356	34,032
2. Allowances						
Dearness allowance	4,350	4,350	4,350	4,350	4,350	21,750
Travelling allowance	500	500	500	500	500	2,500
	4,850	4,850	4,850	4,850	4,850	24,250
3. Contingencies (Recurring)						
Cost of seeds, plants, insecticides, fungicides, grafting material, manures, fertilizers, casual labour & other misc. expenditure	10,000	10,000	10,000	10,000	10,000	50,000
	10,000	10,000	10,000	10,000	10,000	50,000
4. Works						
Malies huts	5,000	—	—	—	—	5,000
Store-keepers quarter	5,000	—	—	—	—	5,000
Nursery Supervisors quarter	5,000	—	—	—	—	5,000
	15,000	—	—	—	—	15,000
GRAND TOTAL ..	36,186	21,438	21,510	21,942	22,206	1,23,282



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Head of items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
3. Contingencies (Recurring)						
Cost of seeds, plants, manures, fertilizers, in- secticides and casual labour etc.	25,000	25,000	25,000	25,000	25,000	1,25,000
Misc. contingencies	5,000	5,000	5,000	5,000	5,000	25,000
TOTAL	..	30,000	30,000	30,000	30,000	1,50,000
4. Non-recurring						
5. Works						
Malies huts ..	20,000	—	—	—	—	20,000
Store godown and office room ..	15,000	—	—	—	—	15,000
TOTAL	..	35,000	—	—	—	35,000
GRAND TOTAL	..	1,02,516	68,434	69,352	70,270	71,188
or say ..	..	1.03	.69	.69	.70	.71
						3.82



APPENDIX—U.P./'R'

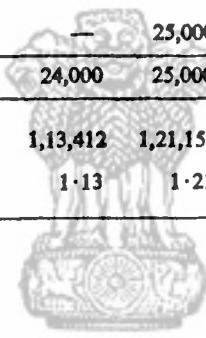
*Detailed budget estimates for the Development and expansion of estate
Orchard, Bharsar during 1960-61*

Head of items						1960-61
I. Pay of Establishment						
(i) One post of Garden Supervisor (75—5—120)	..	..	..	..	..	825
(ii) 8 posts of Malis (27—1—32)	..	..	..	..	..	2,376
TOTAL	..	..	..	..	..	3,201
II. Allowances and Honoraria						
(i) Cost of dearness allowance ..	..	..	..	..	..	2,420
(ii) Travelling allowance ..	..	..	..	..	..	200
TOTAL	..	..	..	..	..	2,620
III. Contingencies (Recurring)						
(i) Cost of insecticides up-keep of implements, daily labour and other miscellaneous item ..	..	..	..	..	..	7,500
TOTAL	..	..	..	..	..	7,500
IV. Contingencies (Non-Recurring)						
(i) Cleaning of Jungle, preparation of terraces and bunding @ Rs. 1,000/- per acre ..	..	..	..	..	..	20,000
(ii) Digging of pits and filling of manures and fertilizers @ Rs. 2/8/- per pit for 4000 pits ..	..	..	..	..	..	10,000
(iii) Cost of furniture ..	..	..	..	..	..	800
(iv) Fencing ..	..	..	..	..	..	10,000
TOTAL	..	..	..	..	..	40,800
V. Works						
(i) Construction of Supervisors quarter ..	..	..	..	..	..	6,000
(ii) Construction of 4 sets of malis quarter @ Rs. 2,000/- each ..	..	..	..	..	..	8,000
(iii) Construction of Store-cum-Tool Godown ..	..	..	..	..	..	5,000
TOTAL	..	..	..	..	..	19,000
GRAND TOTAL : (I to V)	..	..	..	..	..	73,121
or say	..	..	..	..	..	.73

Detailed Budget Estimates for the Development and Expansion of State Orchard, Bhrsar during IIIrd Five Year Plan Period

Head of Items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
1. Pay of Establishment						
One post of Senior Garden Inspector. (200-15-350) ..	2,200	2,580	2,760	2,940	3,120	13,620
One post of Garden Supervisor (75-5-120) ..	825	960	1,020	1,080	1,140	5,025
One post of routine Clerk (60-3-90-4-110)	660	756	792	828	864	3,900
Eight posts of Malies every year (32-1-37) ..	3,072	6,240	9,440	12,764	16,220	47,736
One post of Office Peon (22-1-27)	264	270	276	282	288	1,380
One post of Chowkidar (22-1-27)	264	270	276	282	288	1,380
TOTAL ..	7,945	11,832	15,356	19,004	22,784	76,941
2. Allowance & Honoraria:						
Dearness allowance	4,850	5,080	5,300	5,520	5,740	26,490
Travelling allowance	500	500	500	500	500	2,500
TOTAL ..	5,350	5,580	5,800	6,020	6,240	28,990
3. Contg. (Recurring):						
Cost of manures, fertilizers, insecticides, tools, implements, casual labour & other misc. expdt.	12,500	22,000	25,000	28,000	30,000	1,17,500
	12,500	22,000	25,000	28,000	30,000	1,17,500
4. Contg. (Non-recurring):						
Cleaning of jungles preparation of terraces & bunding @ Rs. 1,000 per acre	20,000	40,000	40,000	—	—	1,00,000
Digging of pits, filling with manures and fertilizers @ Rs. 2-8 per pit.	5,000	10,000	10,000	—	—	25,000
Furnitures ..	500	—	—	—	—	500
TOTAL ..	25,500	50,000	50,000	—	—	1,25,500

Head of items	1961-62	1962-63	1963-64	1964-65	1965-65	Total
5. Works Construction of						
Quarter for S.H.I.	10,000	—	—	—	—	10,000
Quarter for Super- visors ..	6,000	—	—	—	—	6,000
Clerks quarters @ Rs. 5,000 each	—	10,000	—	—	—	10,000
Five Malies quar- ters @ Rs. 2,000 each ..	—	10,000	—	—	—	10,000
Two peons quarters @ Rs. 2,000 each	—	4,000	—	—	—	4,000
Office building ..	10,000	—	—	—	—	10,000
Tool Godown ..	5,000	—	—	—	—	5,000
Godown with fitt- ings & fixtures	—	—	25,000	—	—	25,000
TOTAL ..	31,000	24,000	25,000	—	—	80,000
GRAND TOTAL :	82,295	1,13,412	1,21,156	53,024	59,024	4,28,931
or say ..	·82	1·13	1·21	·53	·59	4·28



APPENDIX—U.P./T

Detailed budget estimates for Vegetable Production Scheme "Yatra Line" for Pauri-Garhwal, Tehri-Garhwal and Almora Districts for the year 1960-61

Detailed Budget estimates for Vegetable Production Scheme on the "Yatra line" for Pauri-Garhwal, Tehri-Garhwal and Almora districts under inaccessible area scheme during the IIrd Five Year Plan Period.

Head of Items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
<i>Pay of Officers</i> .. — — — — — —						
<i>Pay of Establishment</i>						
3 Nursery Supervisors (75-5-120)	2,880	3,060	3,240	3,420	3,600	16,200
24 Malies (Skilled) (27-1/2-32) ..	7,920	8,064	8,208	8,352	8,452	40,996
TOTAL ..	10,800	11,124	11,448	11,772	12,052	57,196
<i>Allowances and Honorary</i>						
C.D.A. ..	8,856	8,856	8,856	8,856	8,856	44,280
T.A. ..	4,000	4,000	4,000	4,000	4,000	20,000
TOTAL ..	12,856	12,856	12,856	12,856	12,856	64,280
<i>Contingencies (Recurring)</i>						
1. Rent of Centres- 24 (Rs. 5 for 21 centres and Rs. 3 for 3 centres ..	1,620	1,620	1,620	1,620	1,620	8,100
2. Vegetable seed and cloth bags etc. ..	840	840	840	840	840	4,200
3. Manures and fertilisers and labour	1,000	1,000	1,000	1,000	1,000	5,000
4. Office contingencies ..	600	600	600	600	600	3,000
TOTAL ..	4,060	4,060	4,060	4,060	4,060	20,300
<i>Subsidy on vegetable Seeds for cultivator..</i>						
	3,000	3,000	3,000	3,000	3,000	15,000
TOTAL ..	3,000	3,000	3,000	3,000	3,000	15,000
GRAND TOTAL ..	30,716	31,040	31,364	31,688	31,968	1,56,776
or say ..	•31	•31	•31	•32	•32	1.57 lakh

APPENDIX—U.P./'U'

Scheme for marketing of fruits and vegetables in the Hills of Uttar Pradesh for the year 1960-61

Head of items							1960-61
<i>Pay of Officers</i>							
One Assistant Registrar (250-850)	..	..	..	..	..	..	3,000
					TOTAL	..	3,000
<i>2. Pay of Establishment</i>							
Eight Accountant-cum-Store-keeper (100-170)	..	..	..	..	..	..	9,600
Eight Attendants 32-1-37	..	..	..	..	..	..	3,072
Five Sales Managers 200-15-350	..	..	..	..	..	..	6,000
Ten Sales Assistants 120-250	..	..	..	..	..	..	7,200
Five Store-keepers 80-130	..	..	..	..	..	..	2,400
Ten Attendants 32-1-37	..	..	..	..	..	..	1,920
One Stenographer (75-150)	..	..	..	..	..	..	900
One Orderly, peon 22-1/2-27 or 27-1/2-32	..	..	..	..	..	..	384
					TOTAL	..	31,496
<i>3. Allowance</i>							
C.D.A. ..	..	..	..	..	..	..	18,030
T.A. ..	..	..	..	..	..	..	3,000
					TOTAL	..	21,030
<i>4. Contingencies (Recurring)</i>							
Miscellaneous for 5 depots	..	..	..	..	..	..	5,000
Rent for 5 sales depot @ Rs. 400 per month per depot @ 50:50	..	..	..	..	..	..	1,000
Publicity ..	..	..	..	..	..	..	3,000
					Total	..	9,000
<i>5. Contingencies (Non-recurring)</i>							
Construction of 8 sheds @ Rs. 8,000/- per shed ..	..	..	..	..	..	..	64,000
Subsidy on cost of Truck @ Rs. 17,500 per truck ..	..	..	..	..	..	..	1,40,000
Furniture for sales depot ..	..	..	..	..	..	..	5,000
					TOTAL	..	2,09,000
					GRAND TOTAL	..	2,73,526 or say 2-74 lakhs

Scheme for marketing of fruits and vegetables in the Hills of Uttar Pradesh for the II Ird Plan Period

Head of items	1961-62	1962-63	1963-64	1964-65	1965-66	Total
1. Pay of Officers						
One Assistant Registrar 250-850	3,300	3,600	3,900	4,200	4,500	19,500
TOTAL ..	3,300	3,600	3,900	4,200	4,500	19,500
2. Establishment						
Eight Accountant-cum-Store-keepers 100-170	10,176	10,752	11,328	11,904	12,480	56,640
Eight Attendants 31-1-37	3,168	3,264	3,360	3,456	3,552	16,800
Five Sales Managers 200-15-350 ..	6,450	6,900	7,350	7,800	8,250	36,750
Ten Sales Assistants 120-250 ..	7,560	7,920	8,280	8,640	9,000	41,400
(Pay of the following staff shall be subsidized @ 50%						
Five Store-keepers 80-130	2,550	2,700	2,850	3,000	3,150	14,250
Ten Attendants 32-1-37	1,980	2,040	2,100	2,160	2,220	10,500
One Stenographer to Assistant Registrar 75-150 ..	948	996	1,044	1,092	1,140	5,200
One Orderly to Asstt. Registrar 32-1-37	396	408	420	432	444	2,100
TOTAL ..	38,223	34,980	36,732	38,484	40,236	1,83,640
3. Allowances & Honoraria :						
D.A.	18,030	18,030	18,030	18,030	18,030	90,150
T.A.	3,000	3,000	3,000	3,000	3,000	15,000
TOTAL	21,030	21,030	21,030	21,030	21,030	1,05,150
4. Contingencies (Recurring) :						
Misc. for 5 depots	5,000	5,000	5,000	5,000	5,000	25,000
Rent for 4 sales depots @ 400 per depot per month	1,000	1,000	1,000	1,000	1,000	5,000
Publicity ..	3,000	3,000	3,000	3,000	3,000	15,000
TOTAL	9,000	9,000	9,000	9,000	9,000	45,000
GRAND TOTAL ..	66,558	68,610	70,662	72,714	74,766	3,53,290
or say ..	·66	·69	·71	·72	·75	3·53

APPENDIX—U.P./'V'

***Budget estimates for the pilot centre for the Pine Wool and vegetable fibre
for the year 1960-61***

Sl. No.	Head of items	Estimates for 1960-61		
		No. of posts	Amounts proposed	
(1)	(2)	(3)	(4)	(5)
I—Pay of Officers				
1.	Development Officer (Fibre) 250-850 (with a start of Rs. 460)	1	5,060	
	for rounding	plus	40	
		Total ..		<u>5,100</u>
II—Pay of Establishment :				
1.	Head Mistry (120-300)	1	1,320	
2.	Asstt. Supdt. Production (120-300)	1	1,320	
3.	Mistry for Carter (85-150)	1	935	
4.	Mistry for Carding (85-150)	1	935	
5.	Head Clerk-cum-Accountant (80-130)	1	880	
6.	Store Clerk-cum-Typist (60-110)	1	660	
7.	Driver (60-100)	1	660	
8.	Boiler Attendant (32-1-37)	1	352	
9.	Cleaner (22-27)	1	242	
10.	Orderly and Peon (22-27)	2	484	
11.	Chowkidar (22-27)	1	242	
12.	Sweeper (22-27)	1	242	
	for rounding	plus	28	
		TOTAL ..	13	<u>8,300</u>
III—Allowances and Honoraria				
	Dearness allowance		4,785	
	Travelling allowance		3,000	
	Honoraria		300	
	for rounding	plus ..	15	
		TOTAL ..		<u>8,100</u>

(1)	(2)	(3)	(4)	(5)
IV—Contingencies (Recurring)				
1. Purchase of Stationery	500	
2. Service postage stamps	800	
3. Repair, replacement and purchase of tools and plants and equipments etc.	500	
4. Maintenance and Repair of buildings	500	
5. House Rent	600	
6. Purchase of raw material including wages to workers etc.	30,000	
7. Publicity, propaganda and participation in exhibitions	1,000	
8. Maintenance and repair of truck including purchase of petrol etc.	6,000	
9. Misc. contingencies including hot and cold weather charges, purchase of periodicals and books etc.	2,500	
			42,400	

V—Contingencies (Non-Recurring)

1. Purchase of Machinery, Boilers Beators, Engine, Pump, Bailing Press, Transport and installation etc., including purchase of truck	.. .. .. .. ..	..	1,10,000
2. Purchase of furniture & fitting, iron safes and typewriter etc.	2,000
			1,12,000

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VI—Civil Works

Construction of workshop, Office and store sheds etc.	40,000
			40,000
GRAND TOTAL.	.. .. .. .. ..	..	2,15,900

Abstract

I—Pay of Officers	.. .. .. .. ..	..	5,100
II—Pay of Establishment	.. .. .. .. ..	..	8,300
III—Allowances and Honoraria	.. .. .. .. ..	..	8,100
IV—Contingencies (Recurring)	.. .. .. .. ..	..	42,400
V—Contingencies (Non-Recurring)	.. .. .. .. ..	..	1,12,000
VI—Civil Works	.. .. .. .. ..	..	40,000
			2,15,900
TOTAL	.. .. .. .. ..	..

Costing of Pine Needle Fibre, based on the working of a Commercial Unit

(i)	Cost of Raw-Material 30,000 Mds. of which will produce 8,000 Mds. of Pine Fibre)	10,000
(ii)	.. .. Chemicals	30,000
(iii)	.. .. Fuel	30,000
(iv)	Wages to workers and staff including carding, Baling and transport charges	60,000
		<u>1,30,000</u>
	<i>i.e.</i>	Rs. 16.25 per maund

Profit & Loss

(i)	Cost of production	1,30,000
(ii)	Depreciation on Machines @ 6% (on Rs. 11,0000) ..	6,600
(iii)	Depreciation on Building @ 6% (Rs. 40,000) ..	2,400
(iv)	Interest on working capital @ 4%	5,200
	TOTAL	1,44,200
(v)	Overheads @ 5%	7,210
		<u>1,51,410</u>
(vi)	Profit 12½%	18,926
	or Rs. 21.25 per maund ..	<u>1,70,336</u>

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APPENDIX—U.P./'W'

**Budget Estimates for Pottery Development Centre in the Hill District of
Uttar Pradesh for the year 1960-61**

Sl. No.	Item	Scale of pay	Budget Estimates		For 1960-61		
			No. of posts Srinagar	Amount Garhwal	No. of posts Bhimtal	Amount Nainital	Total Estimates
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
II—Pay of Establishment							
1. Supdt. of Production ..	200-300	1	2,220	1	2,220	4,400	
2. Mechanics ..	85-150	1	935	1	935	1,870	
3. Technical Attendants ..	45-65	1	495	1	495	990	
4. Accountant ..	80-130	1	880	1	880	1,760	
5. Clerk-cum-Typist	60-110	1	660	1	660	1,320	
6. Orderly Peon ..	22½-27	1	242	1	242	484	
7. Chowkidar ..	Do.	1	242	1	242	484	
for rounding ..	..		plus 46		plus 46	plus 92	
			7	5,700	7	5,700	11,400
III—Allowances & Honoraria							
1. Dearness allowance ..			2,310		2,310	4,620	
2. Travelling allowance ..			500		500	1,000	
3. Honoraria ..	..		50		50	100	
for rounding ..	..		plus 40		plus 40	plus 80	
			2,900		2,900	5,800	
IV—Contingencies (Recurring)							
1. Purchase of raw materials including wages and fuel etc. ..			10,000		10,000	20,000	
2. Stipend to 5 trainees @ 25 p.m. ..	..		1,375		1,375	2,750	
3. Service postage stamps			200		200	400	
4. Purchase of stationery			200		200	400	
5. Repairs of water channels			250		250	500	
6. Publicity propaganda & participation in Exhibition ..	..					
7. Misc. contingencies ..			1,000		1,000	2,000	
8. Purchase of samples ..			100		100	200	
9. House rent @ 50 p.m. for rounding		550		550	1,100	
			(—) 25		(—) 25	(—) 50	
				13,900		13,900	27,800

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APPENDIX U.P./'W'—*contd.*

(1)	(2)	(3)	(4)	(5)
V—Contingencies (Non-recurring)				
1. Purchase of machinery	6,000	6,000	6,000	12,000
2. Installation of water turbine including construction of water channels and reservoir	10,000	—	—	10,000
3. Purchase of Motor starter and installation etc. ..	—	2,000	2,000	2,000
4. Construction of Kiln & Chimney	10,000	10,000	10,000	20,000
Total ..	26,000	18,000	18,000	44,000
 VI—Civil Works				
Construction of Godown, Work-shop and Office ..	25,000	25,000	25,000	50,000
TOTAL ..	25,000	25,000	25,000	50,000
GRAND TOTAL ..	73,500	65,500	65,500	1,39,000
Abstract				
PAY OF ESTABLISHMENT ..	5,700	5,700	5,700	11,400
ALLOWANCES & HONORARIA ..	2,900	2,900	2,900	5,800
CONTINGENCIES (RECURRING)	13,900	13,900	13,900	27,800
CONTINGENCIES (NON-RECURRING)	26,000	18,000	18,000	44,000
CIVIL WORKS	25,000	25,000	25,000	50,000
	73,500	65,500	65,500	1,39,000



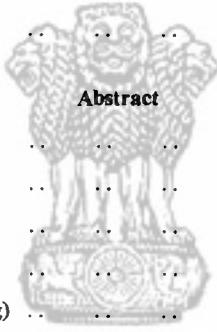
APPENDIX U.P./'X'—contd.

Budget Estimates for one Service Centre of Copper Smithy at Kharahi (Almora) and Pithoragarh (Almora) for the year 1960-61

Sl. No.	Item	Scale of Pay	No. of posts	Estimate for 1960-61
(1)	(2)	(3)	(4)	(5)
Estimates for one unit				
I—Pay of Officers				
1. Superintendent	.. .. .. .. ..	200-450	1	2,200
	TOTAL	.. .. ..		2,200
II—Pay of Establishment				
1. Fitter-cum-Mechanic	.. .. .. .. ..	120-300	1	1,320
2. Operators	.. .. .. .. ..	45-65	2	990
3. Workshop Attendant	.. .. .. .. ..	27-32	1	297
4. Head Clerk-cum-Accountant	.. .. .. .. ..	80-130	1	880
5. Typist-cum-Clerk	.. .. .. .. ..	60-110	1	660
6. Orderly Peons	.. .. .. .. ..	27-32	2	594
7. Chowkidar for rounding	.. .. .. .. ..	27-32	1	297
	TOTAL	.. .. ..	(—) 38	
	TOTAL	.. .. ..	9	5,000
III—Allowances & Honoraria				
1. Dearness Allowance	.. .. .. .. ..			3,272
2. Travelling Allowance	.. .. .. .. ..			1,000
3. Honoraria for rounding	.. .. .. .. ..		plus	300
	TOTAL	.. .. ..	28	
	TOTAL	.. .. ..		4,600
IV—Contingencies (Recurring)				
1. Postage Stamps	.. .. .. .. ..			300
2. Purchase of Stationery	.. .. .. .. ..			150
3. House Rent	.. .. .. .. ..			1,100
4. Miscellaneous contingencies	.. .. .. .. ..			4,000
5. Repair, Renewal of tools and Plants	.. .. .. .. ..		token provision	100
6. Repair Renewal of shed etc.	.. .. .. .. ..		token provision	200
for rounding	.. .. .. .. ..		(—) 50	
	TOTAL	.. .. ..		5,800

APPENDIX U.P./'X'—*contd.*

(1)	(2)	(3)	(4)	(5)
V—Contingencies (Non-Recurring)				
1. Purchase of Machines		20,000
2. Purchase of Furniture & Typewriter etc.		2,000
3. Fittings and installation of machines		1,000
	TOTAL	.. .. ..		23,000
VI—Civil Works				
Construction of Workshop		20,000
	TOTAL	.. .. ..		20,000
Grand Total for one unit		60,600
Total estimates for two units		1,21,200
Abstract				
1. Pay of Officers		2,200
2. Pay of Establishment		5,000
3. Allowances & Honoraria		4,600
4. Contingencies (Recurring)		5,800
5. Contingencies (Non-recurring)		23,000
6. Civil Works		20,000
	for one unit	.. .. ..		60,600
TOTAL estimates for two units		1,21,200



APPENDIX—U.P./'Y'

Budget Estimates for Wood Work Development Centre in the Hill Districts of Uttar Pradesh for the year 1960-61

Sl. No.	Item	Scale of pay	No. of posts	Estimates for 1960-61	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
I—Pay of Officers :					
1. Manager	.. .. .. ..	250-850	1	2,750	
for rounding	.. .. .. ..		(—)	50	
	TOTAL	..		2,700	
II—Pay of Establishment					
1. Foreman	.. .. .. ..	120-300	1	1,320	
2. Machine Men	.. .. .. ..	85-150	4	3,740	
3. Accountant	.. .. .. ..	80-130	1	880	
4. Clerk-cum-Typist	.. .. .. ..	60-110	1	660	
5. Orderly Peon	.. .. .. ..	22-½-27	1	242	
6. Chowkidar	.. .. .. ..	22-½-27	1	242	
for rounding	.. .. .. ..		plus	16	
	TOTAL	..		7,100	
III—Allowances & Honoraria					
1. Dearness Allowance	.. .. .. ..			3,382	
2. Travelling Allowance	.. .. .. ..			1,000	
3. Honoraria	.. .. .. ..			100	
for rounding	.. .. .. ..		plus	.18	
	TOTAL	..		4,500	
IV—Contingencies (Recurring)					
1. Purchase of Raw materials including wages				30,000	
2. Stipend to 15 trainees @ 30 per month ..				4,950	
3. Repair of water channel & reservoirs ..				100	Token pro- vision
4. Renewal and repairs of tools and plants				100	Do.
5. Postage & Stamps				300	
6. Purchase of Stationery				300	
7. Publicity propaganda & participation in Exhibition				1,750	
8. Misc. contingencies including Hot and Cold weather charges etc.				1,000	
9. House rent				550	
	TOTAL	..		38,000	

APPENDIX—U.P./'Y'—*contd.*

(1)	(2)	(3)	(4)	(5)	(6)
V—Contingencies (Non-recurring)					
1. Purchase of Bandsaws, Circular saws, Benches, Turning Lathe Heards, Circular Plains, Drills and Workshop equipment and one blacksmith furnace with accessories				15,000	
2. Water Turbine including installation and construction of water channels and reservoirs				15,000	
	TOTAL			30,000	
VI—Civil Works					
Construction of shed, water Channel reservoir				20,000	
				20,000	
	GRAND TOTAL			1,02,300	
Abstract					
I PAY OF OFFICERS				2,700	
II PAY OF ESTABLISHMENT				7,100	
III ALLOWANCES AND HONORARIA				4,500	
IV CONTINGENCIES (RECURRING)				38,000	
V CONTINGENCIES (NON-RECURRING)				30,000	
VI CIVIL WORKS				20,000	
	TOTAL			1,02,300	

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APPENDIX--U.P./Z'

**Budget Estimate for the Development of Kisan Industry in the Districts of Pauri Garhwal
for the year 1960-61**

St. No.	Name of Item	Scale of pay	No. of posts	Establish- ment for 1960-61	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
II—Pay of Establishment :					
1.	Technical Asstt.-Cum-Instructor ..	120—300	1	1,320	
2.	Production Clerk	60—110	1	660	
3.	Attendant	22 1/2—27	1	242	
4.	Chaupidar for rounding	Do.	1	242	
				ptas 36	
	TOTAL ..	..		2,500	
III—Allowances & Honoraria :					
1.	Dearness allowance .. ..	..		1,137	
2.	Travelling allowance .. ..	..		500	
3.	Honoraria for rounding	.. ..		100	
		.. ..		(—) 37	
	TOTAL ..	..		1,700	
IV—Contingencies (Recurring) :					
1.	Purchase of Stationery .. ..	..		150	
2.	Service Postage Stamps .. ..	..		200	
3.	Misc. Contingencies including Hot & Cold weather charges .. ..	.. ..		500	
4.	Repair & Renewal of Tools & Plants ..	..		100	Token provision
5.	House Rent .. .. ..	..		550	
6.	Purchase of raw material and wages ..	..		2,000	
7.	Stipend to trainees @ 30/- p.m. for 10 trainees .. .. ..	.. .. ..		3,300	
		.. .. ..		6,800	
V—Contingencies (Non-Recurring) :					
I—Purchase of tools and appliances ..					
	TOTAL ..	..		2,000	
	GRAND TOTAL ..	..		13,000	
Abstract					
II—PAY OF ESTABLISHMENT					
		..		2,500	
III—ALLOWANCES & HONORARIA					
		..		1,700	
IV—CONTINGENCIES (RECURRING)					
		..		6,800	
V—CONTINGENCIES (NON-RECURRING) ..					
		..		2,000	
	TOTAL ..	..		13,000	

APPENDIX—U.P./'ZA'

Details of Expenditure for the Development of Chelu Oil Industry on Cooperative Lines

			Loan	Grant	Total
1. Purchase of Ghani	..	..	1,500	1,500	3,000
2. Transport Subsidy for the Purchase of Ghani	..		—	500	500
3. Construction of shed	..	..	2,500	2,500	5,000
4. Purchase of Bullocks	..	..	300	—	300
5. Purchase of minor tools	..	..	500	—	500
6. Stockings of Seed	..	..	5,000	—	5,000
Total for one unit	..	..	9,800	4,500	14,300
Total for two Units	..	..	19,600	9,000	28,600



APPENDIX—U.P./'ZB'

Estimates for Date Palm Products centres in Kumaon Hills for the year 1960-61

Sl. No.	Item	Scale of pay	No. of posts	Estimates for 1960-61	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
II—Pay of Establishment :					
1. Palm Gur Demonstrators	(45-2-65- EB-3-80)	2	990		
2. Palm Gur Guide for rounding	27-1/2-32	2 (+)	594 16		
TOTAL			1,600		
III—Allowances & Honoraria					
1. Dearness Allowance			1,210		
2. Travelling Allowance for rounding			(—) 200 10		
TOTAL			1,400		
IV—Contingencies (Recurring) :					
1. Rent for the office of Palm Gur Demonstrator @15/- p.m.			165		
2. Tree rent @25 N.P. per tree			100		
3. Fuel			200		
4. Stationery & Postage Stamps			70		
5. Misc. contingencies including labour charges			750		
6. Boarding and lodging charges of 20 trainees @30/- per month for 2 months			1,200		
7. Actual Railway fare EKKA, Bus and Coolie etc. charges of 20 candidates @5/- per trainee..			100		
8. Medical aid for 20 trainees for rounding			(—) 25 10		
			2,600		
VI—Contingencies (Non-Recurring) :					
1. Tools and implements			1,500		
2. Furniture and fitting			100		
TOTAL			1,600		
GRAND TOTAL			7,200		

(1)	(2)	(3)	(4)	(5)	(6)
Abstract					
I—PAY OF ESTABLISHMENT		1,600	
II—ALLOWANCE AND HONORARIA		1,400	
III—CONTINGENCIES (RECURRING)		2,600	
IV—CONTINGENCIES (NON-RECURRING)	..			1,600	
				7,200	



APPENDIX U.P./'ZC'

Budget Estimates for Four Sericultures Demonstration-cum-Training Centres during the year 1960-61

Sl. No.	Item	Estimates for 1960-61			Remarks
		No. of posts	Amount Proposed	(5)	
(1)	(2)	(3)	(4)	(5)	
Estimates For One Centre.					
II—Pay of Establishment :					
1. Demonstrators (60—3—90 EB—4—110)	1	660	
2. Rearing attendant 22—1/2—27 or 27—1/2—32	2	539	
3. Chawkidar 22—1/2—27 or 27—1/2—32 for rounding	1	297	+ 4
TOTAL	1,500	
III—Allowances and Honoraria					
1. Dearness allowance	1,155	
2. Travelling allowance	500	
3. Honoraria	100	
for rounding		+ 45
TOTAL	1,800	
IV—Contingencies (Recurring)					
1. Misc. contingencies including hot and cold weather charges, house rent, purchase of periodicals, books and stationery etc.	1,000	
2. Purchase of cocoons	2,000	
3. Purchase of chemicals and disinfectants	500	
4. Repairs and renewal of building	100	Token pro- vision
TOTAL	3,600	
V—Contingencies (Non Recurring)	..				
1. Purchase of equipments and furniture etc.	3,000	
2. Installation of incubation chamber and equipment for control of temperature and humidity	6,500	
TOTAL	9,500	
VI—Civil Works					
Construction of rearing huts	18,000	
TOTAL	18,000	
GRAND TOTAL FOR ONE CENTRE	..			34,400	
BUDGET ESTIMATES FOR 4 CENTRES	..			1,37,600	

(1)	(2)	Abstract	(3)	(4)
PAY OF ESTABLISHMENT	1,500	
ALLOWANCES; AND HONORARIA	1,800	
CONTINGENCIES (RECURRING)	3,600	
CONTINGENCIES (NON-RECURRING)	9,500	
CIVIL WORKS	18,000	
TOTAL FOR ONE CENTRE	34,400	
ESTIMATES FOR FOUR CENTRES	1,37,600	
ESTIMATE FOR TWO YEARS (1960-61 and 1961-62)	2,75,200	

Grants of loan and Subsidy to the Cooperative societies of Rearers

		Estimates for one centre	Estimates for 4 centres
I—Loan			
(i) Loan for share capital (Rs. 25 per member) (Rs. 6.25 to be contributed by the member and Rs. 18.75 to be contributed by Government to be paid in two years in 24 instalments)	..	1,875	7,500
(ii) Loan for working capital Rs. 62.50 per member) to be paid in 10 years	..	6,250	25,000
	TOTAL	..	8,125
			32,500
II—Subsidy			
(i) Fencing	..	2,500	10,000
(ii) Irrigation facilities	..	5,000	20,000
	TOTAL	..	7,500
			30,000
	GRAND TOTAL	..	15,625
			62,500

APPENDIX—U.P./'ZD'

Budget Estimates for one Training-cum-Production Centre and 10 Spinning Centres and One Sale Shop in Jaunsar Bawar Area of Dehra Dun District for the year 1960-61

Sl. No.	Particulars	Scale of pay	No. of posts	Estimates for 1960-61
(1)	(2)	(3)	(4)	(5)
II—Pay of Establishment				
1. Supdt. of Industries	200—300	1	2,200
2. Asstt. Supt. of Industries (Training)	..	120—300	1	1,320
3. Asstt. Supt. of Industries (Technical)	..	120—300	1	1,320
4. Asstt. Supt. of Industries (Designist)	..	120—300	1	1,320
5. Weaving Instructor	85—150	2	1,870
6. Dyeing Instructor	85—150	1	935
7. Technical Attendant	40—65	1	440
8. Master spittner	25—1—35	10	2,750
9. Spinning Supervisor	40—65	1	440
10. Commercial Traveller	60—110	1	660
11. Salesmen	60—110	1	660
12. Sales attendant	40—65	1	440
13. Clerk-cum-typist	60—110	1	660
14. Store Keeper	60—110	1	660
15. Peons & Chaukidar	27—1—32	4	1,188
16. Fitter	60—100 for round- ing	2	1,320
			+	17
TOTAL			18,200
III—Allowances Honoraria				
1. Dearness		8,547
2. Travelling allowances		2,000
3. Honoraria		500
4. City & Compensatory allowances	..			220
for rounding	+	33
TOTAL			11,300

(1)	(2)	(3)	(4)	(5)
IV—Contingencies (Recurring)				
1. House Rent for (a) One T.C.P. @ Rs. 100/- p.m.	5,170
11 months (b) One Sale shop @ Rs. 120/- p.m.	
(c) 10 spinning centres @ 25/- p.m.	
2. Misc. contingencies including hot and Cold weather charges, payment of wages etc.	7,000
3. Publicity and Propaganda	2,000
4. Purchase of Stationery	500
5. Post and Telegram charges	500
6. Loss wastage in training	600
7. Stipend to 50 weavers @ Rs. 25/- p.m. for 11 months	13,750
8. Stipend to 200 spinners @ Rs. 5/- for 11 months for rounding	11,000
			..	(—) 20
		TOTAL	..	40,500

V—Contingencies (Non Recurring)				
1. Purchase of charkhas	..	..	..	3,500
2. Purchase of looms	..	..	..	7,000
3. Purchase of Machines				
(a) One Carding Plant	..	..	..	45,000
(b) One Wasting Machine	..	..	..	4,800
(c) One Milling Machine	..	..	..	3,800
(d) One Raising Machine	..	..	..	7,000
(e) One Hydro Extracter	..	..	..	7,000
(f) One Rotary Press	..	..	..	7,000
(g) One Boiler	..	..	..	7,600
		TOTAL	..	82,200
4. Installation and transport charges	..	..	..	7,000
5. Furniture and fittings etc.	..	..	..	2,500
6. Purchase of type writer and D. Machine	..	..	..	1,000
		TOTAL	..	1,03,200

VI—COMMERCIAL OPERATION				
		TOTAL	..	1,50,000
		GRAND TOTAL	..	1,50,000

Abstract				
1. PAY OF ESTABLISHMENT	..	..	..	18,200
2. ALLOWANCES & HONORARIA	..	..	..	11,300
3. CONTINGENCIES (RECURRING)	..	..	..	40,500
4. CONTINGENCIES (NON-RECURRING)	..	..	..	1,03,200
5. COMMERCIAL OPERATION	..	..	..	1,50,000
		GRAND TOTAL	..	3,23,200

APPENDIX--U.P./ZE'

**Budget Estimates for the Development of Cane & Bamboo Industry At Kotdwar District
Garhwal For 1960-61**

Sl. No.	Head of Items	Scale of pay	No. of posts	Estimates for 1960-61	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1. Pay of Establishment					
	Senior Instructor	120—8— 200—EB— 10—300	1	1,320	
	Accountant-cum-Store-keeper	60—3—90 EB—4—110	1	660	
	Attendant	22—1—27	1	242	
	Chawkidars for rounding	Do.	1	242	
			(+)	36	
	TOTAL	.. ..		2,500	
2. Allowances Honoraria					
	Dearness Allowance			1,347	
	Travelling Allowance			300	
	for rounding		(-)	47	
	TOTAL	.. ..		1,600	
3. Contingencies (Recurring)					
	Post & Telegraph charges & Stationery			200	
	Rent of Building @ Rs. 100/- p.m.			1,100	
	Repairs & replacement of tools & plants			200	
	Stipend to 15 trainees @ Rs. 25/- p.m. each			4,125	
	Purchase of Raw Material & Payment of wages			1,000	
	Misc. contingencies including purchase of samples, book and periodicals		(-)	600	
	for rounding			25	
	TOTAL	.. ..		7,200	
4. Contingencies (Non-Recurring)					
	Purchase of machines, tools and plants and other equipments			6,000	
	TOTAL	.. ..		6,000	
	GRAND TOTAL	.. ..		17,300	
Abstract					
1. PAY OF ESTABLISHMENT .. .. ..	.. .. ..			2,500	
2. ALLOWANCES & HONORARIA .. .. ..	.. .. ..			1,600	
3. CONTINGENCIES (RECURRING) .. .. ..	.. .. ..			7,200	
4. CONTINGENCIES (NON RECURRING) .. .. ..	.. .. ..			6,000	
	17,300				

APPENDIX—U.P./"ZF"

Budget Estimates for the Development of Shawls, Galichas, Asnies and Druggest at Pauri Garhwal for 1960-61

Sl. No.	Head of items	Scale of pay	No. of posts	Estimates for 1960-61	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1. Pay of Officers					
Manager	200—10— 310—EB-14 —450	1	2,200	
	TOTAL	..		2,200	
2. Pay of Establishment					
Craft Supdt.	200—15— 350	1	2,200	
Craftsman (Weaving)	120—8—200— EB-10—300	1	1,320	
Craftsman (Galicha & Asnies)	Do.	1	1,320	
Craftsman (Druggest)	Do.	1	1,320	
Craftsman (Dying)	Do.	1	1,320	
Commercial Traveller	Do.	1	1,320	
Acctt.-cum-Head Clerk	100—8— 140—EB-10—170	1	1,100	
Peons & Attendants	27—1—32	5	1,485	
Chaukidar for rounding	Do.	1	297	
	TOTAL	..	(+)	11,700	
3. Allowances & Honoraria					
Dearness Allowance			4,840	
City Allowance			132	
Travelling Allowance for rounding		(+)	2,000	
	TOTAL	..		7,000	
4. Contingencies (Recurring)					
Stipend to 300 trainees @ Rs. 25/- p.m. each			8,250	
Purchase & Preparation of samples			2,000	
House rent @ Rs. 100/- p.m.			1,100	
Purchase of raw material & Wages			8,000	
	TOTAL	..		20,800	
Stamps & Postage and Stationery etc.			450	
Misc. contingencies			500	

(1)	(2)	(3)	(4)	(5)	(6)
5. Contingencies (Non-Recurring)					
Tools & equipment	..	..	..	2,000	
Furniture & Show cases	..	..	..	3,000	
Typewriter	..	..	..	1,400	
		TOTAL	..	6,400	
	GRAND TOTAL	..	..	48,100	

Abstract

1. PAY OF OFFICERS	..	..	2,200
2. PAY OF ESTABLISHMENT	..	..	11,700
3. ALLOWANCES & HONORARIA	..	..	7,000
4. CONTINGENCIES (RECURRING)	..	..	20,800
5. CONTINGENCIES (NON-RECURRING)	..	..	6,400
			48,100



APPENDIX—U.P./'ZG'

Budget Estimates for the Pilot Project Scheme in Uttar Kashi District Tehri Garhwal 1960—61.

Sl. No.	Head of Item	Scale of pay	No. of post	Estimates for 1960-61	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
I—Pay of Officers					
	Community Project Officer	.. .. ..	500—1200	1	5,500
	TOTAL	..		5,500	
II—Pay of Establishment					
<i>(a) Controlling Staff</i>					
	Stenographer ..	.. .. ..	75—150	1	825
	Head Clerk ..	.. .. ..	100—170	1	1,100
	Senior Clerk ..	.. .. ..	80—130	1	880
	Routine Clerk ..	.. .. ..	60—110	1	660
	Typist ..	.. .. ..	Do.	1	660
	Store keeper ..	.. .. ..	60—100	1	660
	Orderly Peon ..	.. .. ..	22— 4 27	1	242
	Office Peon ..	.. .. ..	Do.	2	484
	Store Attendant ..	.. .. ..	Do.	1	242
	Sweeper ..	.. .. ..	Do.	1	242
	Mali ..	.. .. ..	Do.	1	242
	Daftri ..	.. .. ..	32—37	1	352
	for rounding			(+)	11
	TOTAL (a)	..		13	6,600
<i>(b) For Multipurpose Unit</i>					
	Mechanical Operator Incharge Unit ..	200—300	1	2,200	
	Lathe & Drill Instructor ..	120—300	1	1,320	
	Black Smithy-Cum-Welding Incharge ..	120—300	1	1,320	
	Attendant ..	22— 4 27	1	242	
	Attendant-cum-Chaukidar Special Pay 5/-	Do.	1	297	
	for rounding			(+)	21
	TOTAL (b)	..		5,400	

(1)	(2)	(3)	(4)	(5)	(6)
(c) Training-Cum-Production Centre					
Supt. Production	200—300	2	4,400		
Instructor	120—300	7	9,240		
Craftsman	85—150	7	6,545		
Accountant-cum-Clerk	80—130		1,760		
Peons	22—27		484		
Attendant with special pay of Rs. 5/- ..	Do.	7	2,079		
for rounding		(—)	8		
TOTAL ..		27	24,500		
TOTAL (a) (b) (c)			36,500		

III—Allowances & Honoraria

Dearness Allowance	14,531
Travelling Allowance	6,000
Bonus	1,000
Honoraria	200
for rounding	(—) 31
TOTAL ..	21,700

IV—CONTINGENCIES RECURRING**(a) For Head Quarters**

Misc Contingency including postage, stationery Telegram & advertisement etc.	5,000
TOTAL IV (a) ..	5,000

(b) For Multipurpose Unit

Postage & Stationery	200
Raw Material and Wages	3,000
Misc. contingencies	400
TOTAL (b) ..	3,600

(c) For Training-Cum-Production Centres

Postage & Stationery	400
Rent of Building @ 40/- per unit ..	3,080
Stipend to 168 trainees @ 25/- p.m.	46,200
Raw Material & Wages	10,500
Prize & Competition	700
Misc. contingencies	1,500
for Rounding	(+) 20
TOTAL ..	62,400
TOTAL (a) (b) (c)	71,000

(1)	(2)	(3)	(4)	(5)	(6)
IV—Contingencies Non-Recurring Head Quarters					
	Cost of Furniture, Typewriter, cycle, fans etc.			5,000	
(b) For Multipurpose Unit					
	Purchase of Machinery tools, furniture, cycle, fans etc.			32,000	
(c) For Training-Cum-Production Centre					
	Purchase of machinery, tools, equipment, cycle, fans etc.			35,000	
		TOTAL IVB.(a)(b)(c)		72,000	
V—Commercial Operation					
1. Multipurpose Unit	.. ..			8,000	
2. For Training-cum-Production Centre	.. ..			5,000	
	TOTAL			13,000	
VI—Grants-in-Aid					
(c) Training-cum-Production Centre	.. ..			5,000	
	TOTAL			5,000	
VII—D. Works					
<i>Purchase of land and construction of building</i>					
A. For staff Quarters	.. .. ..			50,000	
B. For Multipurpose Unit	.. .. ..			36,000	
	TOTAL			86,000	
	GRAND TOTAL			3,10,700	
Abstract					
PAY OF OFFICERS	.. .. ..			5,500	
PAY OF ESTABLISHMENT	.. ..			36,500	
ALLOWANCES & HONORARIA ..	.. ..			21,700	
CONTINGENCIES RECURRING ..	.. ..			71,000	
CONTINGENCIES NON-RECURRING ..	.. ..			72,000	
COMMERCIAL OPERATION ..	.. ..			13,000	
GRANTS IN AID ..	.. .. ..			5,000	
CIVIL WORKS ..	.. .. .. ..			86,000	
	TOTAL			3,10,700	

APPENDIX—U.P./'ZH'

Budget Estimates for Establishment of Ericulture Centres in the Hill Districts for 1960-61

Sl. No.	Item	Scale of pay (3)	No. of posts (4)	1960-61 (Rs.) (5)	Remarks (6)
(1)	(2)				
Estimates For One Unit					
I—Pay of Establishment					
1. Inspector	120—8—200— EB-10—300	1		1,320	
2. Demonstrator-cum-Rooling Supervisor	60—3—90—EB— 4—110	1		660	
3. Clerk	60—3—90— EB-4—110	1		660	
4. Chaukidar	92—27	1		242	
5. Peon for rounding	Do.	1		242	
		(—)		24	
	TOTAL	..		3,100	
II—Allowances & Honoraria					
1. Dearness allowance				1,705	
2. Travelling allowance for rounding				500	
		(—)		5	
	TOTAL	..		2,200	
III—Contingencies (Recurring)					
1. Service postage & Stationery				450	
2. House rent @ 50/- p.m.				550	
3. Misc. contingencies				1,000	
4. Purchase of material and payment of wages				500	
5. Purchase of eggs etc.				500	
	TOTAL	..		3,000	
IV—Contingencies (Non-Recurring)					
1. Purchase of improved rolling charkhas				1,000	
2. Farm equipments (Trays, baskets etc.)				1,000	
3. Purchase of furniture and equipment etc.				1,000	
	TOTAL	..		3,000	
Abstract					
1. PAY OF ESTABLISHMENT				3,100	
2. ALLOWANCES AND HONORARIA				2,200	
3. CONTINGENCIES (RECURRING)				3,000	
4. CONTINGENCIES (NON-RECURRING)				3,000	
	Total for one centre	..		11,300	
	Total for four Centres	..		45,200	

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The Part II Reports of the Inaccessible Area Committee on the Chini and Pangi Areas of Himachal Pradesh and Kulu Valley of Punjab have not been printed due to security reasons.



ACKNOWLEDGEMENTS

The Committee is extremely grateful to the concerned State Govts. and Administrations for their fullest cooperation in furnishing replies to questionnaire and making available supplementary information and detailed data, especially keeping in view the fact that requisite information in respect of inaccessible areas was not readily available and special efforts had to be mobilised to obtain it. Their endeavour and eagerness to be of real assistance to the Committee, in arranging programmes of discussions and visits to various places in their respective areas was commendable. We are further grateful to various institutions, organisations and individuals who tendered evidence and valuable advice during the visits of the Committee.

The Committee would like to place on record their unanimous appreciation of the meritorious services rendered by Shri D. Ramiah, Member-Secretary. Although heavily engrossed in his otherwise heavy assignment as Deputy Secretary in the Department of Agriculture, he spared no pains in rendering valuable assistance to the Committee in its deliberations and drafting of the Report. But for his keen and zealous interest, it would not have been possible for the Committee to present this detailed study of the Inaccessible Areas.

We are grateful to Shri T. R. Anand, Private Secretary to Chairman, for making excellent touring arrangements throughout the term of the Committee. Our special thanks are due to him and Shri B. D. Sharma for their untiring efforts and singular devotion to duty in helping the Committee in the collection, analysis and compilation of necessary data, and drafting the Committee's Report. We also thank the other members of the staff who assisted in typing, comparison and other miscellaneous work.

सन्यामेव जयते

RAJA SURENDRA SINGH
Chairman,
Inaccessible Areas Committee

**REPORT OF THE
INACCESSIBLE AREAS COMMITTEE
APPOINTED BY THE
MINISTRY OF FOOD AND AGRICULTURE
(DEPARTMENT OF AGRICULTURE)
GOVERNMENT OF INDIA**

PART I—GENERAL



Chairman

**Raja Surendra Singh of Nalagarh,
Agricultural Production Adviser,
Ministry of Food & Agriculture.**

Members

**Dr. B. N. Uppal,
Agricultural Commissioner, I.C.A.R.,
Ministry of Food & Agriculture.**

**Shri J. V. A. Nehemiah,
Extension Commissioner,
Ministry of Food & Agriculture.**

**Shri K. R. Prabhu,
Deputy Secretary,
Ministry of Home Affairs.**

**Dr. T. S. Gill,
Assistant Chief (Agriculture),
Planning Commission.**

**Shri S. Majid,
Director of Agriculture, Assam State.**

**Shri S. P. Mohite,
Director of Agriculture, Bombay State.**

**Dr. L. S. Negi,
Director of Agriculture, Himachal Pradesh.**

**Shri S. C. Ray,
Director of Agriculture & Community Development,
NEFA, Shillong (Till April, 1959).
Then Shri R. S. Nag, Development Commissioner,
NEFA, Shillong.**

**Dr. Arjan Singh,
Director of Agriculture, Punjab State.**

**Shri H. D. Naithani,
Director of Agriculture, Tripura.**

**Dr. B. K. Mukherjee,
Director of Agriculture, Uttar Pradesh State.**

**Shri D. Ramiah (Member-Secretary)
Deputy Secretary, Ministry of Food & Agriculture,
(Department of Agriculture).**

Coopted Members

Rani Manjula Devi, M.P., (Goalpara) — Assam.

Shri Premji Assar, M.P., (Ratnagiri) — Bombay.

Shri Padam Dev, M.P. (Pangi) — Himachal Pradesh.

Shri Chowkhamain Gohain, M.P. (NEFA) — N.E.F.A.

Shri Hem Raj, M.P. (Kangra) — Punjab.

Shri Dasaratha Deb, M.P. (Tripura) — Tripura.

Shri Mahavir Tyagi, M.P. (Dehra Dun) — Uttar Pradesh.